EXHIBIT 1

CAUSE NO. 201361294

RECEIPT NO. 21393 0.00 ATY
10-11-2013 TR # 72957894

PLAINTIFF: MOBIUS MEDICAL SYSTEMS LP
vs.
DEFENDANT: SUN NUCLEAR CORPORATION

In The 129th
Judicial District Court
of Harris County, Texas
129TH DISTRICT COURT
Houston, TX

CITATION (NON-RESIDENT CORPORATE)

THE STATE OF TEXAS
County of Harris

SMN #390 2:50 pm 10/17/13

Served
Date 10/17/13 Time 2:50 pm
SPECIAL & CERTIFIED PROCESS SERVER
18th # __ OR # __ OS # __
390 N. Orange Ave., Suite 1650
Orlando, FL 32801 ★ 407-426-7433
SMN #390

TO: SUN NUCLEAR CORPORATION MAY BE SERVED THROUGH THE TEXAS SECRETARY OF STATE OR BY SERVING ITS REGISTERED AGENT IN FLORIDA WILLIAM E SIMON 3275 SUNTREE BLVD MELBOURNE FL 32940

Attached is a copy of PLAINTIFF'S ORIGINAL PETITION AND VERIFIED APPLICATION FOR TEMPORARY INJUNCTION

This instrument was filed on the 11th day of October, 2013, in the above cited cause number and court. The instrument attached describes the claim against you.

YOU HAVE BEEN SUED, You may employ an attorney. If you or your attorney do not file a written answer with the District Clerk who issued this citation by 10:00 a.m. on the Monday next following the expiration of 20 days after you were served this citation and petition, a default judgment may be taken against you.

TO OFFICER SERVING:
This citation was issued on 14th day of October, 2013, under my hand and seal of said Court.

DISTRICT COURT OF HARRIS COUNTY TEXAS

Chris Daniel

Issued at request of:
LAHAD, JOHN PIERRE
1000 LOUISIANA STREET SUITE 2100
HOUSTON, TX 77002
Tel: (713) 653-7859
Bar No.: 24068095

CHRIS DANIEL, District Clerk
Harris County, Texas
201 Caroline Houston, Texas 77002
(P.O. Box 4651, Houston, Texas 77210)

GENERATED BY: HILL, MARCELLA DIANA DBG/YS9/9687018

OFFICER/AUTHORIZED PERSON RETURN

Received on the ____ day of _____, _____, at _____ o'clock ____ .M., and executed the same in _____ County, Texas, on the ____ day of _____, _____, at _____ o'clock _____.M., by summoning the _____,

by delivering to _____, in person _____

a corporation <

by leaving in the principal office during office hours

_____ of the said _____

a true copy of this notice, together with accompanying copy of

Serving _____ copy _____ $ _____

_____ By _____
Affiant Deputy

On this day, _____, known to me to be the person whose signature appears on the foregoing return, personally appeared . After being by me duly sworn, he/she stated that this citation was executed by him/her in the exact manner recited on the return.

SWORN TO AND SUBSCRIBED BEFORE ME, on this _____ day of _____, _____.

_____
Notary Public

N.INT.CITCN.P

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a corporation <

by leaving in the principal office during office hours

_____ of the said _____

a true copy of this notice, together with accompanying copy of

Serving _____ copy _____ $ _____

_____ By _____
Affiant Deputy

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SWORN TO AND SUBSCRIBED BEFORE ME, on this _____ day of _____, _____.

_____
Notary Public

N.INT.CITCN.P

CAUSE NO. 2013-61294

Mobius Medical Systems, LP	§	In the District Court of
	§	
Plaintiff,	§	
	§	
v.	§	Harris County, Texas,
	§	
Sun Nuclear Corporation	§	
	§	
Defendant.	§	189 Judicial District

Plaintiff's Original Petition and
Verified Application for Temporary Injunction

Mobius Medical Systems, LP (Mobius) invested incalculable amounts of time, money and energy into developing an unrivaled software product for use by the radiation oncology community. Mobius's DoseLab software provides healthcare institutions and cancer treatment centers with fast, powerful, and accurate means of determining whether the machines they use to treat cancer patients are performing within specified tolerances. DoseLab incorporates several exclusive features and technology, and its power and accuracy are matched only by its ease of use and approachability. In short, DoseLab is the premier software of its kind.

Defendant Sun Nuclear Corporation (SNC) recognized DoseLab's appeal in late 2010 when it agreed to be the exclusive distributor of DoseLab. DoseLab enjoyed greater-than-expected sales and revenue. Despite this success, SNC terminated its distribution agreement with Mobius earlier this year. At the time, SNC gave no reason for its termination, but SNC's motivation has now become clear. SNC misappropriated confidential DoseLab information and trade secrets to create its own competing product, ImagePro. Furthermore, SNC has taken aim at Mobius's current and prospective licensees with misinformation, misrepresentations, and tortious interference with Mobius's maintenance contracts and licenses.

Mobius seeks this Court's assistance in enjoining SNC's wrongful and tortious conduct. In particular, Mobius seeks equitable relief for SNC's breach of contract, willful and malicious misappropriation of trade secrets, trade dress infringement, and tortious interference with existing and prospective contracts.

I.
Discovery

1. Mobius intends to conduct discovery under Level Three, Texas Rule of Civil Procedure 190.3.

2. Mobius requests expedited discovery and a prompt temporary injunction hearing to prevent further irreparable harm caused by SNC's misconduct.

II.
Parties

3. Mobius Medical Systems, LP is a limited partnership organized under the laws of Texas with its headquarters in Bellaire, Texas.

4. Sun Nuclear Corporation is a corporation organized under the laws of Florida with its headquarters in Melbourne, Florida. SNC regularly and systematically conducts business in Texas. However, SNC has failed to maintain a regular place of business or designated agent for service of process in Texas. As a nonresident doing business in Texas, SNC may be served through the Texas Secretary of State, or by serving its registered agent in Florida: William E. Simon, 3275 Suntree Blvd., Melbourne, Florida 32940.

III.
Jurisdiction and Venue

5. This Court has subject matter jurisdiction because the value of the injunctive relief that Mobius seeks exceeds the minimum required amount in controversy.

6. This Court has personal jurisdiction over SNC because SNC has purposefully availed itself of the privilege of conducting activities within Texas. In particular, SNC placed its software products into the stream of commerce in Texas, directed marketing and sales of those software products to Texas customers, and engaged in other profit-making activities in Texas. SNC also entered into multiple contracts with Texas companies and individuals, including several healthcare institutions and cancer treatment centers in Texas. These continuous and systematic activities subject SNC to personal jurisdiction in Texas. Moreover, SNC's liability arises out of its activity within Texas—specifically, its exclusive distributor relationship with Texas-based Mobius and its tortious interference with Mobius's Texas-based licensees. Accordingly, this Court's exercise of jurisdiction over SNC is fully consistent with the constitutional requirements of due process and fully upholds traditional notions of fair play and substantial justice.

7. Venue is proper in Harris County under Tex. Civ. Prac. Rem. Code § 15.002(a)(1) because a substantial part of the events or omissions giving rise to the claim occurred in Harris County. Venue is also proper in Harris County under Tex. Civ. Prac. Rem. Code § 15.002(a)(4) because Mobius is a resident of Harris County.

IV.
Facts

A. Mobius and DoseLab

8. Based in Bellaire, Texas, Mobius is a developer of cutting-edge software used in modern radiation oncology. *See* Exhibit A, Affidavit of Nathan Childress, at ¶3. Radiation oncology involves the treatment of cancer patients with any form of radiation. The field also includes imaging techniques such as computed tomography and planar x-ray imaging.

9. Dr. Nathan Childress, a graduate of M.D. Anderson Cancer Center's esteemed medical physics program, founded Mobius in 2010. *Id.* at ¶2–3. Since then, Mobius has endeavored to provide the radiation oncology community with features and functionality not found in previously-available software. Mobius's most commercially successful product is DoseLab. *Id.* at ¶5. DoseLab is fast, powerful software used in achieving quality assurance (QA) for radiation oncology linear accelerators. QA is critical to the proper use of linear accelerators in modern radiation oncology. According to the International Commission on Radiation Units and Measurements, the radiation delivered to a patient for treatment purposes should be within 5% of the prescribed dose. In order to achieve that level of precision, the characteristics of a linear accelerator must not deviate from known baseline values acquired at the time of acceptance and commissioning. Deviations from the baseline values may result in patients receiving suboptimal treatment. Machine malfunction, mechanical breakdown, physical accidents, component failure or replacement, and aging may cause unexpected changes in machine performance and cause deviation from baseline values. In other words, QA is required to make sure that linear accelerators function as intended.

10. In August 2009, the American Association of Physicists in Medicine published the 2009 Task Group 142 Report (TG-142 Report) on the QA of Medical Accelerators. *See* Exhibit 2 to Childress Affidavit. The purpose of the task group was to recommend guidelines for medical linear accelerator QA. Since its publication, the TG-142 Report has become the *de facto* standard for medical linear accelerator QA. *Id.* Nearly all healthcare institutions and treatment centers in the U.S. and abroad look to the TG-142 Report guidelines to ensure that their linear accelerators are working properly. Exhibit A at ¶4.

11. DoseLab provides accurate, efficient, and powerful TG-142 QA for any kind of linear accelerator-based technology used in modern radiation oncology including intensity-modulated radiotherapy (IMRT), volumetric modulated arc therapy (VMAT), stereotactic radiosurgery (SRS), and stereotactic body radiation therapy (SBRT). *Id.* at ¶5. With its launch, DoseLab introduced several exclusive features to the radiation oncology community.

12. For example, DoseLab gives users the ability to perform critical imaging tests using multiple "phantoms." *Id.* at ¶6. "Phantoms" are objects made of plastic and metal used to test imaging and treatment systems without having to use actual patients. *Id.* Phantoms typically possess features that allow clinics and treatment centers the ability to test specific imaging or treatment parameters in a consistent and reproducible manner. *Id.*

13. Clinics and treatment centers traditionally have a variety of treatment and imaging devices. Since different devices rely on different phantoms for testing, clinics and treatment centers also employ a variety of phantoms. *Id.* DoseLab supports the ability to test a wide variety of phantoms from different manufacturers. This means that a user can avoid buying multiple phantom-specific QA software products or relying on a single set of phantoms. *Id.*

B. SNC Becomes DoseLab's Exclusive Distributor

14. In July 2010, Mobius entered a non-exclusive Software Distribution Agreement with Texas-based LifeLine Software, Inc. (LifeLine). *See* Exhibit A at ¶7; *see also* Exhibit 3 to Childress Affidavit. Under the terms of that agreement, Mobius would sell DoseLab to LifeLine at a wholesale price, and LifeLine would promote, advertise, market, offer for sale, and sell DoseLab in the U.S. *Id.* LifeLine also had the ability to sell "maintenance renewal packages" that provided licensees additional years of software updates and technical support from Mobius. *Id.* LifeLine would receive a commission on the maintenance renewal packages it sold. *Id.*

15. SNC develops and distributes radiation measurement devices and software. In 2010, SNC was selling products that it developed internally as well as products developed by other companies. At the time, SNC did not offer a software product that could perform TG-142 QA, like DoseLab. Exhibit A at ¶8. Thus, shortly after Mobius entered into its non-exclusive agreement with LifeLine, SNC approached Mobius and offered to distribute DoseLab. *Id.*

16. Although SNC had an existing distribution relationship with Lifeline, SNC did not want to distribute DoseLab alongside LifeLine. Instead, SNC wanted to be the world-wide exclusive distributor of DoseLab. *Id.* SNC leveraged its existing relationship with LifeLine and persuaded LifeLine to cede distribution rights for DoseLab in exchange for a commission on sales derived from LifeLine's DoseLab sales leads. *Id.* It is unclear whether SNC ever paid LifeLine any commission on those leads. *Id.*

17. SNC became the exclusive distributor of DoseLab in non-U.S. markets on January 1, 2011 and in the U.S. on March 1, 2011. *Id.* at ¶9. According to Section 1.3 of the Software Distribution Agreement (Distribution Agreement) between Mobius and SNC, SNC agreed to "[f]aithfully and diligently use its best efforts to promote, advertise, market, offer for sale and sell the Products in the Territories and cooperate with Manufacturer in maximizing sales of the Products in the Territories." *See* Exhibit 4 to Childress Affidavit. In exchange, SNC agreed to retain a percentage of DoseLab sales revenue. *See id.* at §4.3 and Exhibit D.

18. Like LifeLine, SNC had the ability to sell maintenance renewal packages to Mobius's existing customers and licensees. *Id.* at §4.7. However, Section 4.7 of the Distribution Agreement made clear that "Inasmuch as the Maintenance Renewal Package involves services that will be provided directly by the Manufacturer [Mobius], Distributor acknowledges and agrees that it is merely acting as the Manufacturer's sales representative in regard to the sale of

any such Maintenance Renewal Packages." In return, SNC receives the same percent share from maintenance contracts as new orders.

C. SNC Agrees It Will Not Compete and Not Decompile, Disassemble, or Reverse Engineer

19. In Section 7 of the Distribution Agreement, SNC agreed that it would not sell or promote any products that directly compete with DoseLab:

> 7. Non-Competition. Distributor [SNC] covenants and agrees that it (a) will not serve as a distributor, dealer or sales agent of, and not to sell, license, lease or market, any third party products which are Directly Competitive with the Products, at any time during the term of this Agreement and for a period of six (6) months after the expiration or earlier termination; and (b) will not sell any of its own products which are Directly Competitive with the Products at any time during the term of this Agreement and for a period of six (6) months thereafter. For purposes of the foregoing covenant, any and all products whose primary function is film or EPID based image analysis software for radiation oncology linear accelerator QA as defined in AAPM TG-142, and treatment log analysis software whose primary function is per fraction QA, will be deemed to be "Directly Competitive" with the Products.

Id.

20. In Section 9.1 of the Distribution Agreement, SNC acknowledged that Mobius's confidential and proprietary information, includes "customer lists and customer opportunities, market intelligence, pricing, market share, revenue, discount and IP knowledge, and other technical information (including any Functional Design, Technical Design, drawings, analysis, research, processes, computer programs, methods, ideas, "know how" and the like").

21. In Section 9.2 of the Distribution Agreement, SNC agreed that during the term of the agreement and "all times thereafter," SNC would not use or disclose Mobius's confidential information or attempt to decompile, disassemble or reverse engineer Mobius's products:

> 9.2. Covenant Not to Use or Disclose. With respect to each party's Confidential Information, and except as expressly authorized herein, ***each party hereby agrees that during the Term hereof and at all times thereafter it shall not use or disclose such Confidential Information to any person or entity***, except to its own employees having a "need to know" (and who are themselves bound by similar

> nondisclosure restrictions), and to such other recipients as the other party may approve in writing; provided, that all such recipients shall have first executed a confidentiality agreement in a form acceptable to the owner of such information. ***Distributor [SNC] may not***: (i) alter or remove from any Product or associated documentation owned or provided by the Manufacturer [Mobius] any proprietary, copyright, trademark or trade secret legend, or (ii) ***attempt to decompile, disassemble or reverse engineer Manufacturer's Products (and any information derived in violation of such covenant shall automatically be deemed Confidential Information owned exclusively by the Manufacturer)***. Each party shall use at least the same degree of care in safeguarding the other party's Confidential Information as it uses in safeguarding its own confidential information.

Id.

22. The Distribution Agreement, at Section 13.1, gave either party the right to terminate the agreement: "Termination for Any Reason. Notwithstanding any other provision of this Agreement to the contrary, either party may terminate this Agreement by giving one hundred and eighty (180) days written notice of termination to the other party." *Id.* However, SNC expressly acknowledged and agreed that the non-competition and confidentiality provisions of Sections 7 and 9 "shall survive the expiration or earlier termination of this Agreement for any reason." *Id.* at §15.3.

23. The Distribution Agreement is governed by Delaware law, and includes an arbitration provision. The arbitration provision, however, expressly carves out the equitable relief Mobius seeks in this lawsuit:

> 15.7 Arbitration. Unless solved by mutual endeavors of the parties hereto, except as otherwise set forth in this Section 15.7 and ***except for any differences, disputes or claims that may arise out of or in connection with Distributor's covenants and agreements in and for which Manufacturer shall seek equitable relief***, all differences, disputes or claims arising in connection with this Agreement or any transaction or occurrence contemplated hereby shall be finally settled in Delaware under the Commercial Rules of the American Arbitration Association, by one or more arbitrators appointed in accordance with such Rules. Such arbitration shall be in the English language. It is understood that the decision in such arbitration shall be binding on both parties and that a judgment upon any award rendered,

> which may include an award of damages, may be entered in any court having jurisdiction.

Id. (emphasis added).

D. SNC Terminates the Distribution Agreement Despite DoseLab's Commercial Success

24. Typically, healthcare providers are hesitant to spend money on untested software. Additional hurdles, healthcare procedures, and government regulations further slow down acceptance. Thus, new medical software often requires several years to gain acceptance. DoseLab is the exception. Radiation oncology centers quickly discovered the accuracy and power of DoseLab's never-before-seen features and quickly sought to integrate DoseLab into their QA regimens.

25. In April 2011, SNC forecasted that it would sell 31 DoseLab licenses in 2011, 55 licenses in 2012, and 75 licenses in 2013. Exhibit A at ¶10. SNC significantly underestimated sales. Nearly two times as many DoseLab licenses were purchased in 2011 (60 licenses) and over three times as many licenses were purchased in 2012 (185 licenses). *Id.*

26. In 2011, Mobius employees helped SNC field questions about DoseLab at SNC's booth during the annual American Association of Physicists in Medicine (AAPM) conference. More visitors to SNC's booth inquired about DoseLab than nearly any other product offered by SNC. This prompted SNC's founder and former CEO, William Simon, to say afterwards, "You beat us." *Id.* at ¶11. Instead of being delighted with DoseLab's success, SNC became resentful of it. SNC's current CEO, Jeff Simon, repeatedly expressed disdain about writing checks to Mobius for its share of the DoseLab proceeds. *Id.* at ¶12. SNC's CEO verbally offered to purchase DoseLab outright, but his offer was so low that it was not seriously considered. *Id.*

27. On March 8, 2013 SNC CEO Jeff Simon said he wanted to terminate the Distribution Agreement. *Id.* at ¶13. Mr. Simon did not provide a specific reason for termination.

Id. DoseLab sales had exceeded expectations, and the parties' business relationship appeared strong. *Id.* Mobius routinely fielded technical questions from SNC's sales people and participated in SNC-hosted webinars about DoseLab. *Id.* Mobius employees assisted in the development of a group of phantoms to be used along with DoseLab. *Id.* Mobius shared information about new developments and improvements to DoseLab. *Id.* In Mobius's view, the parties' efforts to promote and sell Mobius's innovative products were going well.

E. SNC and Mobius Enter Transition Agreement

28. On April 10, 2013, SNC and Mobius entered into a Transition Agreement to govern the termination of SNC's exclusive distributorship. *See* Exhibit 5 to Childress Affidavit. Under the terms of the Transition Agreement, SNC retained exclusive DoseLab distribution rights in the U.S. until September 8, 2013 and world-wide exclusive DoseLab distribution rights until December 31, 2013. *Id.* at §1(a).

29. The Transition Agreement permitted SNC to begin competing with DoseLab after September 8, 2013. *Id.* at §2(a). This reflected a significant concession on Mobius's part. Under the plain language of the Distribution Agreement's non-competition provision, SNC would not have been able to market or sell any competing products until March 8, 2014 (six months after the termination date). *See* Exhibit 4 to Childress Affidavit at §7.

30. Importantly, SNC agreed, at Section 3(c) of the Transition Agreement, that it would "not encourage by any means, any DoseLab customer (potential or existing) to delay purchases to 09/08/2013 or thereafter." Exhibit 5 to Childress Affidavit.

31. Section 4 of Transition Agreement stated that "the following portions of the [Distribution Agreement] are no longer applicable in their entirety: a) Section 1 Appointment of Distributors; b) Section 7 Non-Competition; c) Section 12 Duration of Agreement, Terms; and d) Section 13 Termination of Agreement." *Id.* at §4. The Transition Agreement added "[t]hose

portions of the [Distribution Agreement] not specifically referenced in Section 4 immediately above shall govern the relationship of Mobius and SNC under the terms set out above in Sections 1–3 of this Transition Agreement." *Id.* at §5.

32. Meaning, SNC's "Covenant Not to Use or Disclose" confidential information, and SNC's covenant not to "decompile, disassemble or reverse engineer" under Section 9.2 of the Distribution Agreement remained in full force and effect.

F. SNC Breaches its Covenant and Improperly Uses Mobius's Trade Secrets

33. On March 27, 2013, less than three weeks after SNC's abrupt notice of termination, SNC employee Sindhu Gangisetty submitted a support request to Mobius at Mobius's www.doselab.com web portal demanding, "I need doselab pro 6.5 version for download. thanks." *Id.* at ¶15. It was not uncommon for SNC employees to contact Mobius about DoseLab, but this request was different. First, the web portal is designed for potential customers interested in DoseLab, not for employees of DoseLab's exclusive distributor. Second, the request did not come from an SNC sales or marketing employee—the SNC employees with whom Mobius typically interacts. Instead, the sender was an SNC "Software Test Engineer," who according to her LinkedIn page, performs testing on features of "a tool for performing QA activities on Linear Accelerators." *Id.* The tool she was testing was named ImageCHECK, likely the precursor name of ImagePro, SNC's copy of DoseLab. *Id.*

34. After being asked the reason for her request, Ms. Gangisetty explained that she was "interested in the latest features of DoseLab pro 6.5." *Id.* at ¶16. In response, Dr. Childress reminded her (as well as SNC's CEO Jeff Simon) that SNC could rely on marketing materials to understand features but that DoseLab could not be installed at SNC "for anything other than sales demonstration purposes." *Id.* In response, SNC's CEO Jeff Simon shrugged off his engineer's behavior as "harmless curiosity." *Id.* Worried that SNC was considering using

DoseLab as a guide to develop its own competing product—an act that would violate the express terms of the Distribution Agreement—Dr. Childress again made it clear to SNC and its CEO that "DoseLab is not to be used as a demo product for your software teams, nor is it to be used as a tool to guide development of any Sun Nuclear Products." *Id.* at ¶17. In his reply, SNC CEO Jeff Simon again chalked up Ms. Gangisetty's actions to "curiosity." *Id.*

35. Mobius's fears were confirmed on September 10, 2013. Two days after SNC could "market and sell its own products competitive to those of Mobius" under the Transition Agreement, SNC publicly released its ImagePro software product. ImagePro is a near identical knock-off of DoseLab. ImagePro's features, functionality, raw configuration files, and appearance are all derived from DoseLab.

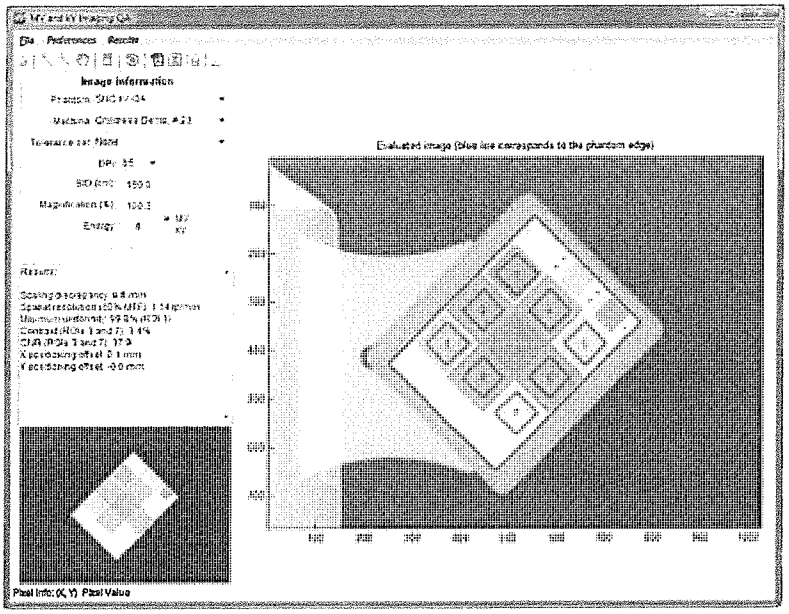
36. Section 9.2 of the Distribution Agreement states that SNC may not "attempt to decompile, disassemble or reverse engineer Manufacturer's Products (and any information derived in violation of such covenant shall automatically be deemed Confidential Information owned exclusively by the Manufacturer)." Based on the striking functional, parametric, and visual similarity between DoseLab and ImagePro, it is clear that SNC decompiled, disassembled, or reverse engineered DoseLab in violation of its obligations under the Distribution Agreement and misappropriated DoseLab's never-before-seen algorithms, innovative parameters, and unique visualizations to create its knock-off product. The similarities between DoseLab and ImagePro, ImagePro's distinct use of DoseLab files in its internal configuration, and ImagePro's marketing materials confirm this.

1. kV/MV Imaging QA

37. kV/MV imaging QA is performed to ensure that the treatment machine is capable of aligning patients in the correct position before radiation delivery. kV/MV imaging itself is often performed on patients before each treatment. In order to enhance the efficiency and

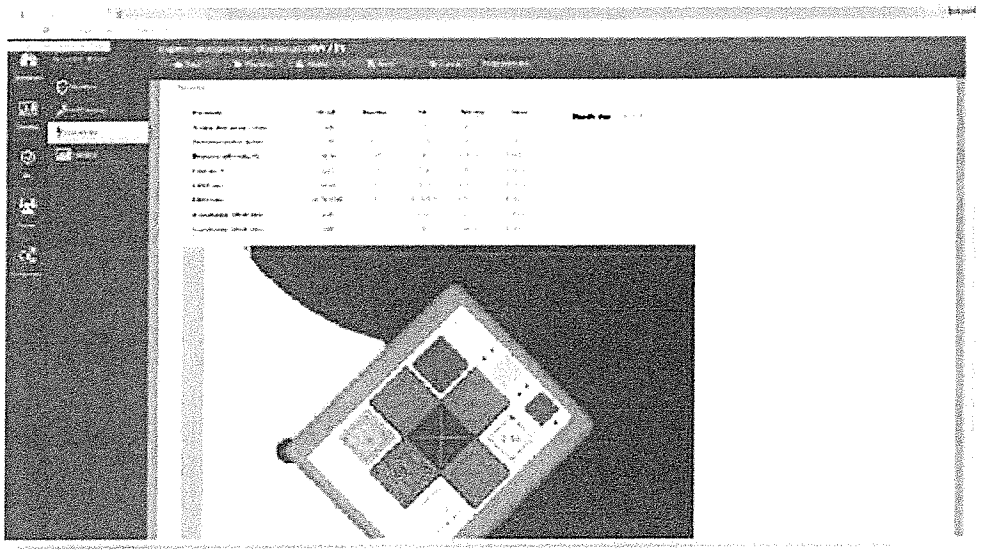
efficacy of this process, DoseLab invented a new algorithm to perform kV/MV Imaging quality assurance analysis of multiple types of phantoms. DoseLab's algorithm and ability to analyze multiple phantoms from multiple manufacturers serves as one of DoseLab's strongest selling points. Indeed, at the time SNC entered the Distribution Agreement with Mobius, DoseLab was the only imaging QA program that could analyze multiple types of phantoms.

38. As part of its exclusive kV/MV imaging algorithm, DoseLab uses reference images to overlay red numbered boxes representing various regions of interest (ROI). No other software uses reference images as an input to its imaging QA algorithm. DoseLab also generates very specific results criteria, including scaling discrepancy, minimum uniformity, X positioning offset, and Y positioning offset. No other software uses these results criteria. The following screenshot is from DoseLab:



39. SNC's ImagePro copies DoseLab's results criteria verbatim. SNC's ImagePro overlays red numbered boxes with ROIs with the same numbering scheme, same colors, and same positioning as DoseLab. SNC's ImagePro even copies DoseLab's internal configuration parameters, ROI coordinates, and algorithm designed to analyze multiple phantoms from

multiple manufacturers. ImagePro's use of DoseLab's ROI coordinates further confirms SNC's unabashed copying. ImagePro's default ROI coordinates are identical to DoseLab's to at least three significant digits. DoseLab's interface displays coordinates to only *two* significant digits. This indicates SNC incorporated DoseLab's raw configuration files for direct use in ImagePro. The following image is from ImagePro's marketing brochure:



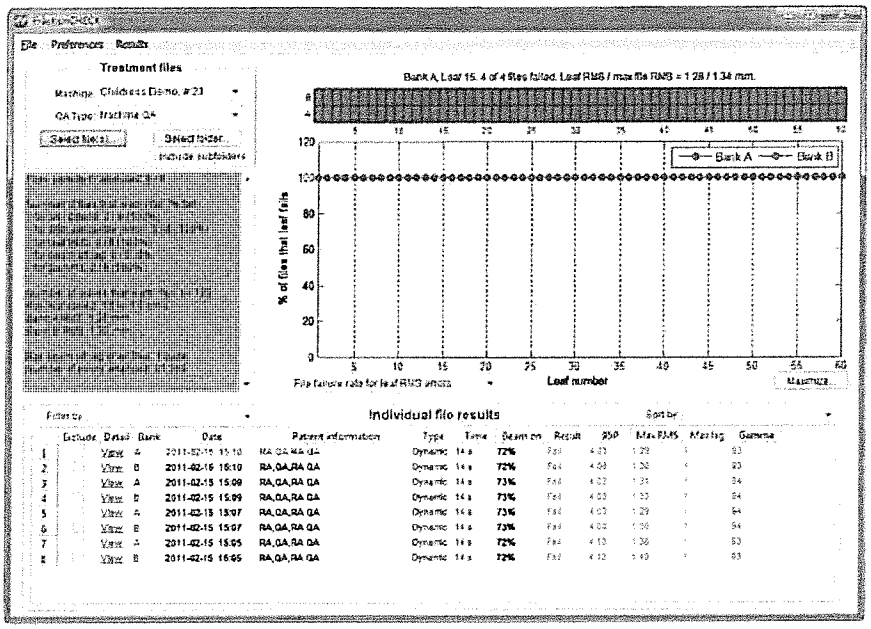
40. Despite the low resolution of the ImagePro brochure reproduction, SNC's deliberate copying and reverse engineering is evident.

2. Multi-Leaf Collimator QA

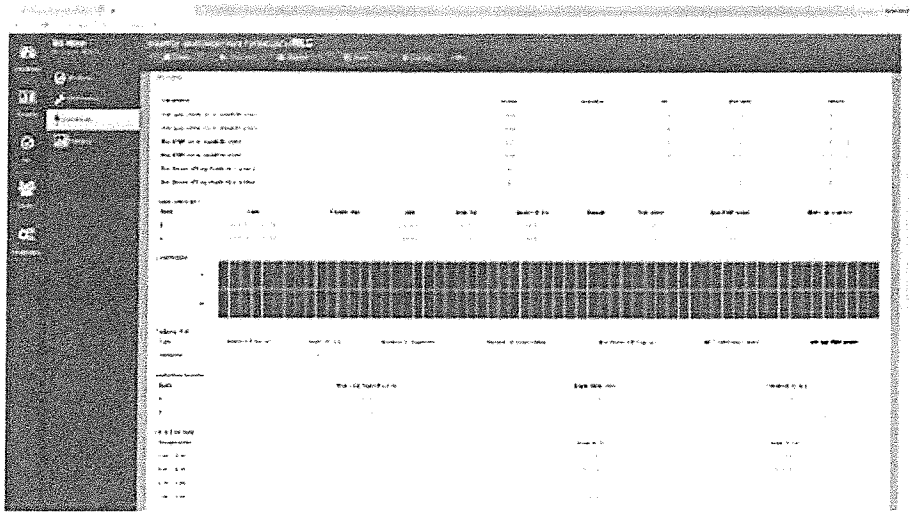
41. A multi-leaf collimator (MLC) is a device made of thick metal leaves that move to dynamically shape a radiation treatment beam. Every leaf is monitored 20-100 times per second. A recording of the leaf positions is called an MLC Log. MLC QA is essential to all clinics that use MLCs because MLC performance defines how precisely radiation is delivered to a patient.

42. Mobius designed an innovative graphical leaf representation using red, yellow, and green rectangles and informative mouse-over tooltips to reflect the results of the MLC log.

All DoseLab MLC results, configuration parameters, and methods for visualizing and displaying those results and parameters are found in no other product – except ImagePro. The following is a screenshot of an MLC log from DoseLab:

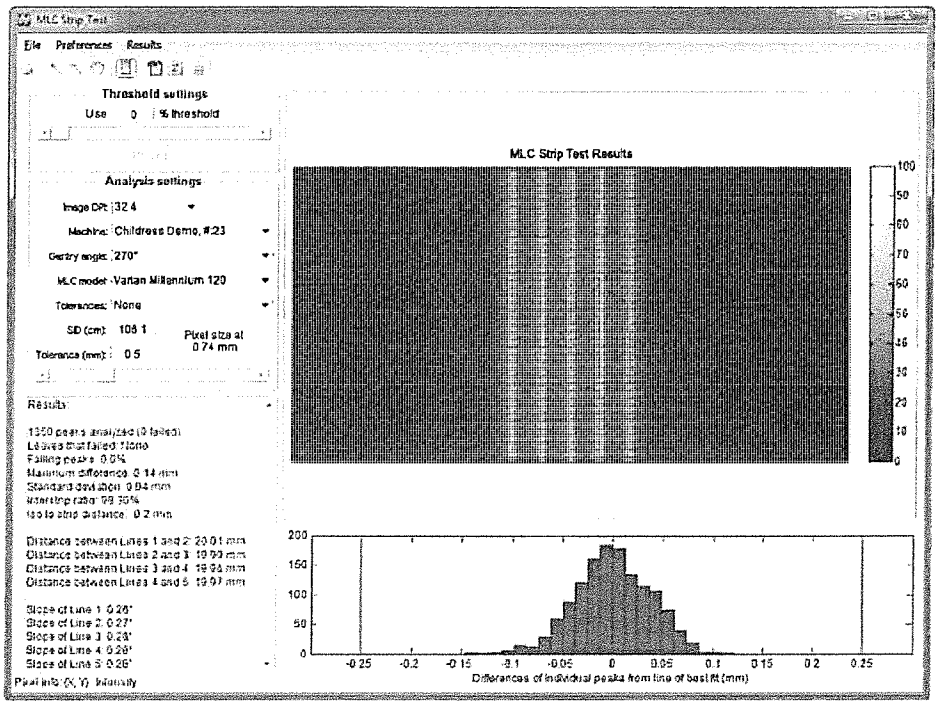


43. SNC's ImagePro directly copies DoseLab's graphical leaf representation, uses the same red, yellow, and green display parameters, the same mouse-over tooltip text, and even copies DoseLab's unique display of multiple individual file results ordered in a table. SNC clearly derived its MLC parameters by reverse engineering DoseLab. The following is from ImagePro's marketing brochure:

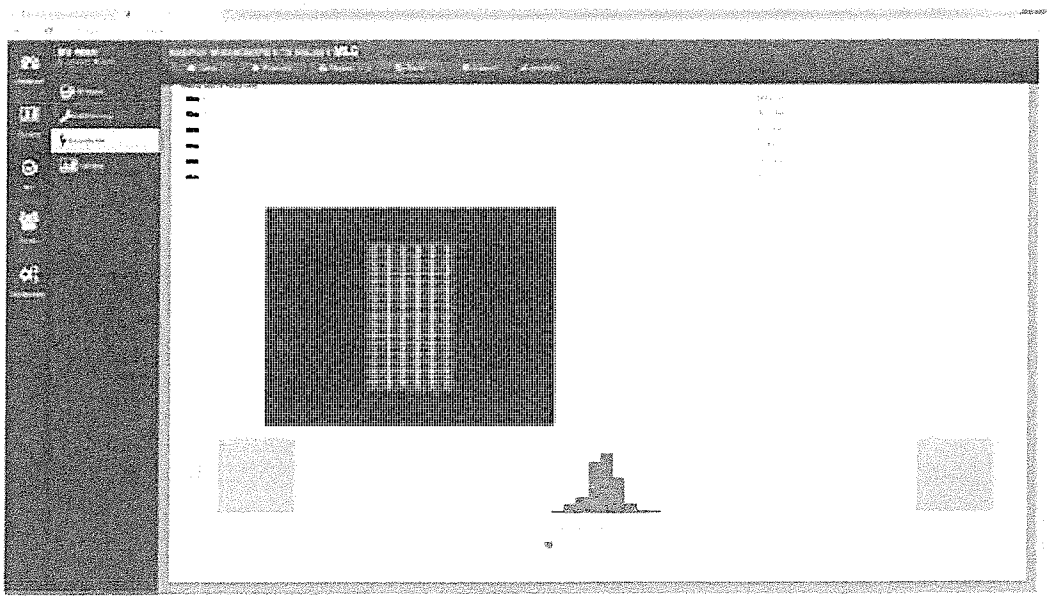


3. MLC Strip Test

44. Another method of MLC QA is the MLC strip test, which the TG-142 Report recommends be done weekly. During an MLC strip test, an image is taken by aligning the MLC's leaves to form a series of strips. The image is analyzed to determine each leaf's deviation from center. DoseLab's method of displaying horizontal lines to indicate individual leaf location and vertical lines to indicate the center of best fit on the evaluated image is a method used by no other QA software. DoseLab's method of displaying the histogram representing differences of the individual leaves is also unique to DoseLab. The following is an MLC strip screenshot from DoseLab:



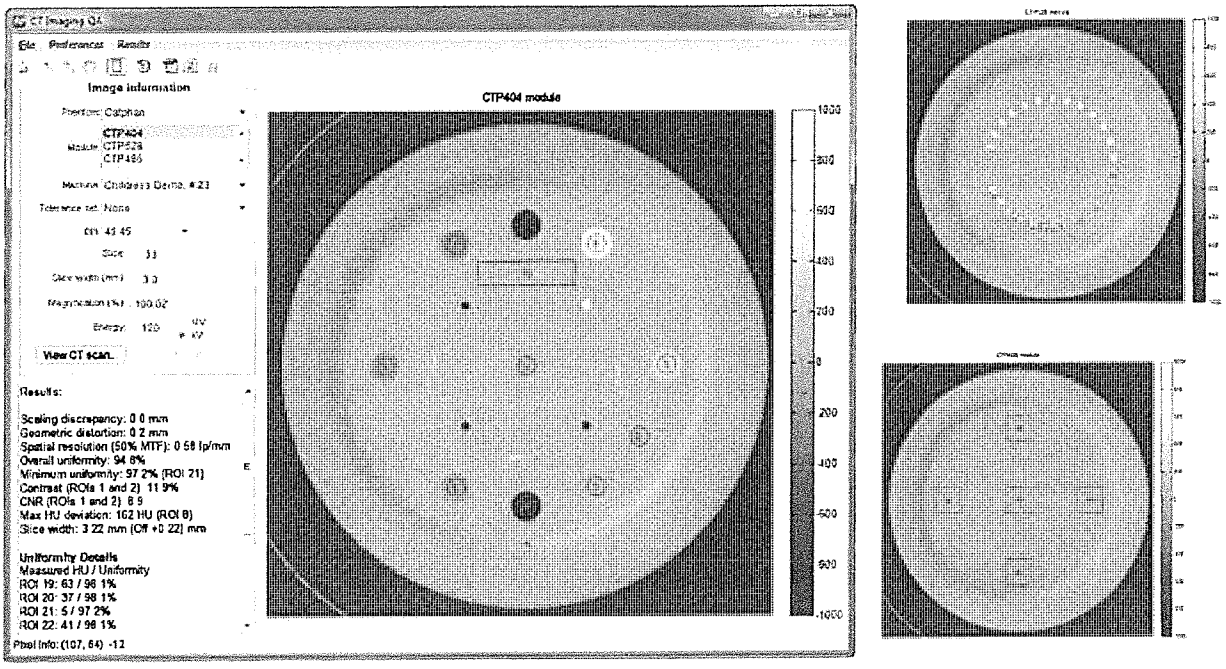
45. SNC's ImagePro directly copies DoseLab's MLC strip test and method of displaying individual leaf location. Before ImagePro improperly copied DoseLab's MLC strip test, no other TG-142 QA product displayed results in this manner. The following is an image from ImagePro's marketing material:



4. Cone Beam CT Imaging

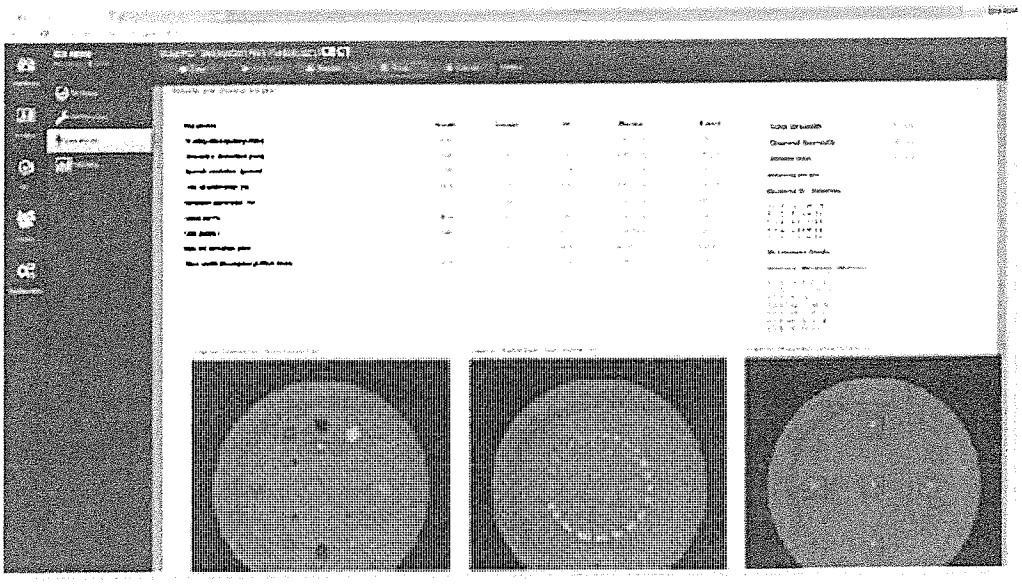
46. Cone beam CT imaging provides a wealth of data regarding the proper alignment of a patient to a treatment beam. Accurately positioning patients based on their internal anatomy (bones, organs, etc.) is critical to safe and effective treatment. Thus, most new treatment machines include integrated CT imaging capabilities. Like kV/MV imaging, CT imaging QA uses phantoms, but a CT image consists of 5–200 individual images taken of different slices in a phantom.

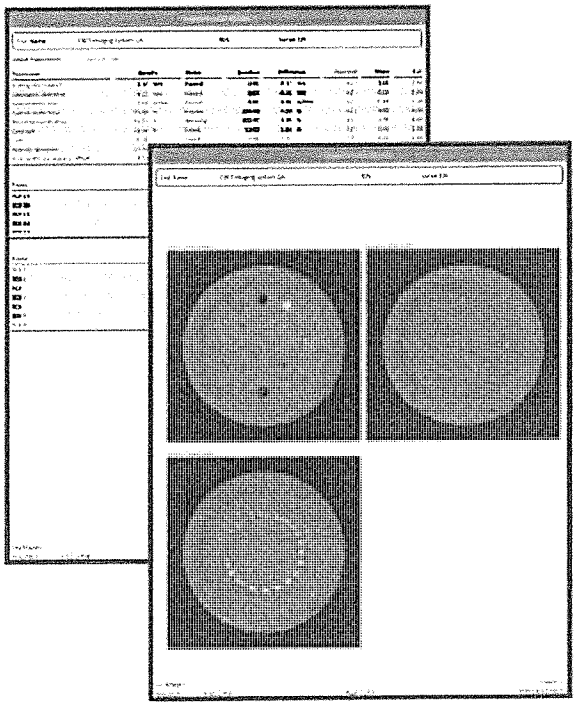
47. DoseLab employs a distinct method for displaying Cone Beam CT Imaging. DoseLab uses a distinct numbering scheme, distinct number of ROIs, distinct color-schemes and shapes for identifying certain ROIs, and distinct results parameters that correspond to the scaling discrepancy, minimum uniformity, and geometric distortion. The following is a screenshot of CT imaging results from DoseLab:



48. SNC's ImagePro directly copies every aspect of DoseLab's CT imaging module. SNC's ImagePro uses the same results parameters, employs the same exclusive ROI numbering

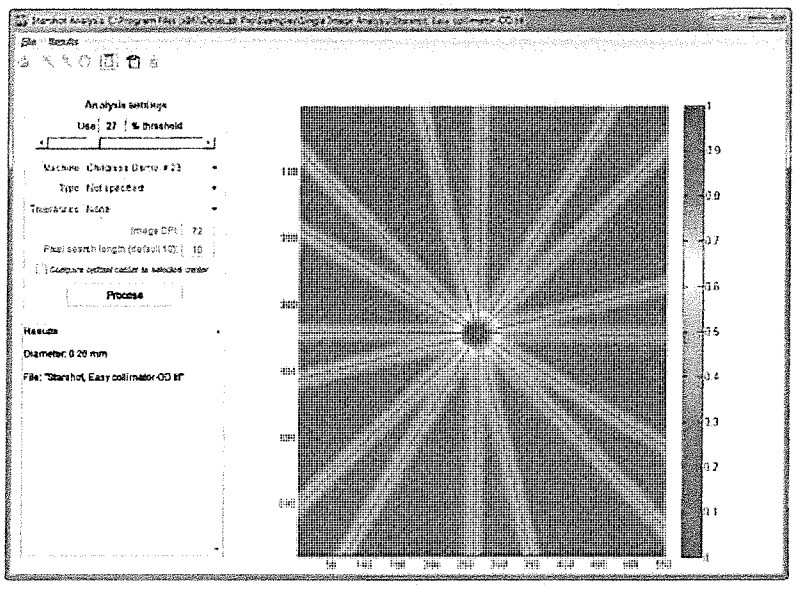
scheme, positioning, and unique shape. SNC's ImagePro even copies the exact look and feel of each display module. ImagePro's indiscriminate level of copying is astonishing:



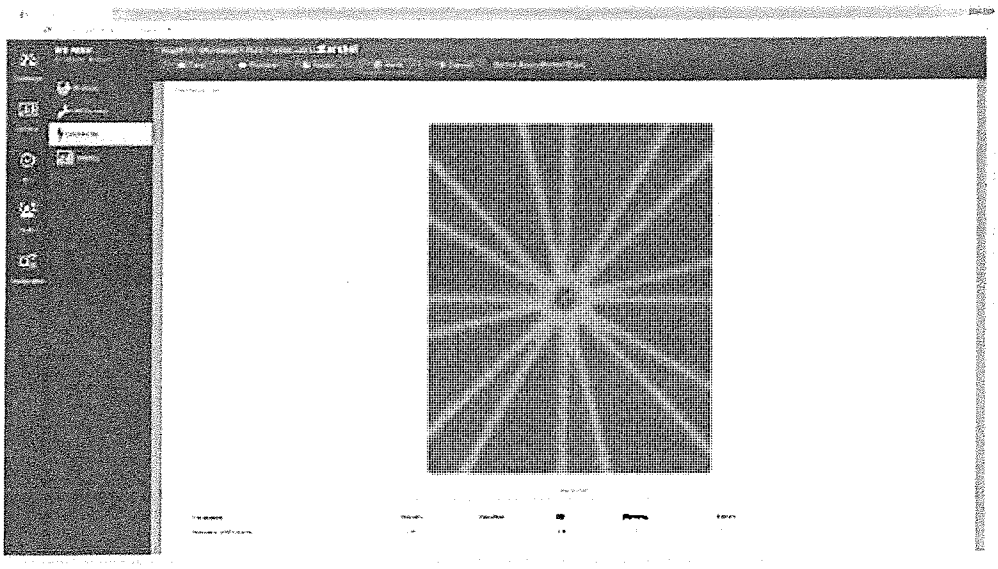


5. Starshot

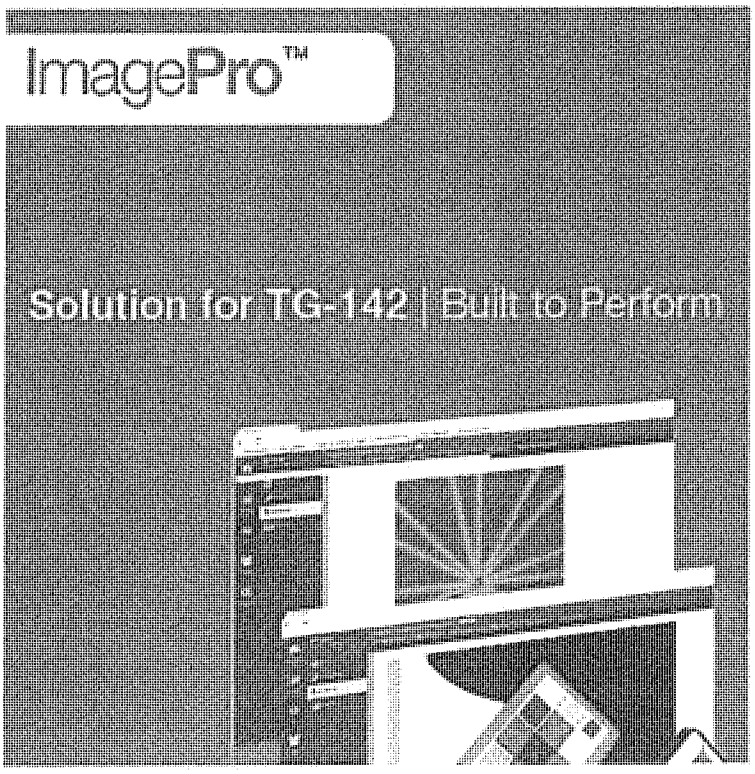
49. A starshot image is taken by delivering a very narrow strip of radiation, rotating a component of the delivery system, and taking a new image. The sum of these images creates a starshot pattern. An exemplary DoseLab starshot is shown below:



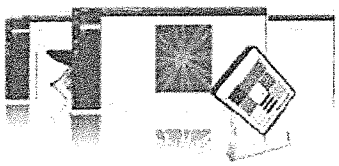
50. The starshot image above is based on a DoseLab-exclusive example image file that ships with DoseLab. SNC used the same example image file to create a similar starshot image, as shown below.



51. SNC repeatedly uses this starshot image in its promotional materials. For example, the following images are from one eight-page ImagePro brochure.



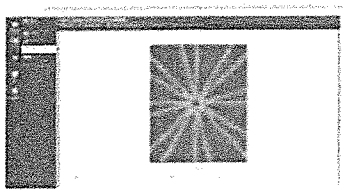
ImagePro™



Built To Perform

Building upon the innovation and quality that you've come to trust and expect from Sun Nuclear, ImagePro was built from the ground up to deliver a comprehensive TG-142 solution that is fast, accurate, and easy to use.

ImagePro software and phantoms address all the common TG-142 tasks. Consistent with Sun Nuclear practice, ImagePro software



Startshots

- Test gantry, collimator, and couch rotation with a single click, eliminating the need to manually detect the center.

52. In other words, not only did SNC misappropriate DoseLab's algorithms and raw configuration files, it misappropriated DoseLab's exemplary images and used them as the cornerstone of ImagePro's marketing.

53. These are just a few examples. There is similar evidence that SNC misappropriated DoseLab's flatness and symmetry functionality, database viewer functionality, and Winston-Lutz functionality. This is no coincidence. SNC's engineers repeatedly launched DoseLab, decompiled, disassembled, or otherwise reverse engineered DoseLab's programming, and improperly used DoseLab's features as a guide for ImagePro's development.

54. SNC's blatant misappropriation is evident. During ImagePro's development, SNC's engineers accessed DoseLab software an unprecedented amount of times. Each time SNC engineers access DoseLab, the program transmits a message to Mobius's webserver with the time, license name, and internet protocol address ("IP address") of the computer accessing DoseLab. Exhibit A at ¶18. Between January 2013 and September 2013, Mobius's webserver logged nearly 750 messages from SNC's Brevard County, Florida-based IP address. *Id.* For

reference, Mobius logged less than ten messages per individual DoseLab trial user during the same period. *Id.* For further reference, two Houston-area treatment facilities with four active linear accelerators together sent only 92 messages in the same 9-month period. This demonstrates that SNC's engineers impermissibly copied DoseLab's algorithms and configuration and example files in order to create ImagePro.

55. Comparing DoseLab and ImagePro to third-party TG-142 QA products further underscores SNC's brazen copying. DoseLab provides features and functionality absent from other TG-142 QA products. For example, to perform monthly TG-142 QA, DoseLab requires a physicist to acquire 15 images. The closest competing product, Standard Imaging's "PIPSpro" product, requires acquiring 26 images. PIPSpro likewise requires eight phantoms for monthly QA to DoseLab's five. The fewer the scans and phantoms, the better. Unsurprisingly, ImagePro needs exactly 15 images and five phantoms, the same requirements as DoseLab.

56. At its core, SNC's ImagePro is nothing more than a clone of DoseLab created through indiscriminate copying of DoseLab's technology.

G. SNC's Continued Misconduct

57. Even though SNC remains a DoseLab distributor and DoseLab's *exclusive* international distributor, SNC has stopped marketing, promoting, and selling DoseLab. Sales of DoseLab have noticeably decreased since SNC provided notice of termination, and SNC ceased providing Mobius with monthly sales reports. *Id.* at ¶19. The ramifications of SNC's refusal to provide monthly reports cannot be overstated. The monthly reports reflect SNC's diligence and efforts at distributing DoseLab. The reports indicate which and how many potential customers SNC has contacted and which of those represent the most probable sales of DoseLab.

58. Moreover, on the same day that it released ImagePro, SNC removed all mention of DoseLab from its website, and even though the Transition Agreement expressly states that

Mobius employees will be present in SNC's booths at two large radiation oncology conferences, AAPM and ASTRO (American Society for Radiation Oncology), SNC denied Mobius employees access to its booth at both conferences in 2013. *Id.* at ¶20.

59. Not only did it cease its efforts to promote and sell DoseLab, SNC wrongly informed potential customers that it was no longer a distributor of DoseLab, improperly tried to get customers to purchase ImagePro instead, and purposefully exploited consumer confusion between DoseLab and SNC's cloned knock-off.

60. For example, on September 17, 2013, a soon-to-be DoseLab licensee called Mobius to inquire about DoseLab. *Id.* at ¶22. When he talked to SNC, SNC falsely told this licensee that it no longer distributed DoseLab, and tried to sell him ImagePro. *Id.*

61. According to another potential licensee, his institution needed DoseLab quickly and had already approved the purchase of DoseLab from SNC. *Id.* at ¶21. Rather than fill this order of DoseLab (or notify Mobius that a consumer attempted to purchase DoseLab), SNC tried to exploit this request to purchase DoseLab by offering to demonstrate ImagePro.

62. On September 19, 2013, SNC hosted an ImagePro webinar. *Id.* at ¶23. A Houston, Texas-based medical physicist, Andrew Soderstrom, presented the webinar. In response to a question about whether he would recommend DoseLab or ImagePro, Soderstrom said, "ImagePro is not part of DoseLab at this point. … Being that they're both Sun Nuclear devices, it would be my impression, or my assumption, that they will kind of pull in more of the functionality of DoseLab into the IDD [the ImagePro computer] as the software and hardware become a little bit more developed." *Id.*

63. Soderstrom completely mischaracterizes the origin of DoseLab as an SNC product—it is not. Soderstrom incorrectly indicates that SNC plans to copy more DoseLab

functionality into ImagePro—it cannot. Soderstrom also mischaracterizes ImagePro as a further development of DoseLab—it is not. SNC's deliberate attempts to confuse the marketplace do not stop there.

64. On September 22-24, 2013, SNC hosted a booth at the recent meeting of the American Society for Radiation Oncology (ASTRO) in Atlanta, Georgia. *Id.* at ¶24. During the meeting, a DoseLab customer approached SNC employees at SNC's booth to discuss renewing his DoseLab maintenance agreement. *Id.* Instead of directing the customer to Mobius (who also attended the conference) or renewing the customer's maintenance agreement according to the Distribution Agreement, SNC improperly tried to exploit the customer, steal the opportunity from DoseLab, and sell the customer ImagePro instead. *Id.*

65. On September 25, 2013, Mobius received a call from a DoseLab licensee asking about his DoseLab maintenance renewal. *Id.* at ¶25. This licensee purchased a DoseLab license in 2013 with a maintenance package valid until 2015. *Id.* To the licensee's dismay, SNC Service Contract Manager John Archipolo suggested "upgrading" his DoseLab license to ImagePro. *Id.* Mr. Archipolo offered the licensee "a maintenance software upgrade path" even though his DoseLab license would not expire for nearly 18 months. *Id.* Additionally, the licensee was unsure whether DoseLab would be continued to be supported at all. *Id.*

66. On October 1, 2013, SNC sales manager Stacey Geier contacted a DoseLab licensee awaiting final approval from his institution. *Id.* at ¶26. Ms. Geier attempted to get the licensee to cancel his DoseLab purchase in favor of an ImagePro purchase by falsely claiming that DoseLab had some "deficiencies" and suggesting that DoseLab may not be compatible with future SNC products. *Id.*

67. Also on October 1, 2013, Mobius received an email from a DoseLab licensee asking if Mobius still supports DoseLab. According to the licensee, SNC told him that SNC no longer supports DoseLab. *Id.* at ¶27.

68. On October 2, 2013, a DoseLab licensee emailed Mobius asking why he had not received DoseLab in the same box as his phantoms, as expected. *Id.* at ¶28. This licensee purchased DoseLab and the phantoms in early September 2013, but Mobius received no record of this licensee's purchase from SNC, and SNC never provided the DoseLab software that the licensee ordered. *Id.*

69. These and other SNC acts are extremely disconcerting. DoseLab licensees who contact SNC about DoseLab renewal packages are existing Mobius customers. Consumers that contact SNC about purchasing DoseLab licenses are potential Mobius customers. Mobius trusted SNC as its exclusive distributor since January 2011. Mobius trusted SNC with its confidential information, customer lists, customer opportunities, technical knowledge and know-how, and other technical information. Mobius trusted that SNC would not improperly use or disclose its confidential information. Mobius even trusted SNC to abide by its agreement that it would "not encourage by any means, any DoseLab customer (potential or existing) to delay purchases to 9/08/2013 or thereafter."

70. However, SNC's concerted effort to steal and steer away existing and potential DoseLab customers by reverse engineering DoseLab and exploiting DoseLab's customer contacts is a blatant violation of Mobius's trust. SNC's blatant misconduct, multiple breaches of trust, and flagrant contract violations have severely damaged DoseLab's image and goodwill in the marketplace, and seriously eroded DoseLab's customer base. SNC's flagrant misconduct must be stopped.

V.
Causes of Action

A. Breach of Contract

71. Mobius incorporates by reference the allegations in each of the paragraphs above.

72. In Section 9.1 of the Distribution Agreement, SNC acknowledged that Mobius's confidential and proprietary information, includes "customer lists and customer opportunities, market intelligence, pricing, market share, revenue, discount and IP knowledge, and other technical information (including any Functional Design, Technical Design, drawings, analysis, research, processes, computer programs, methods, ideas, 'know how' and the like").

73. In Section 9.2 of the Distribution Agreement, SNC agreed that during the term of the agreement and "all times thereafter," SNC would not use or disclose Mobius's confidential information or attempt to decompile, disassemble or reverse engineer Mobius's products.

74. SNC breached its obligations under Sections 9.1 and 9.2 of the Distribution Agreement by improperly disclosing Mobius's confidential information to its software engineers in order to create ImagePro, and impermissibly decompiling, disassembling, or reverse engineering DoseLab.

75. SNC further breached its obligations under Sections 9.1 and 9.2 of the Distribution Agreement by improperly exploiting DoseLab's customer lists, customer opportunities, market intelligence, pricing, market share, revenue, discounts, IP knowledge, and other technical information to steal and steer away existing and potential DoseLab customers.

76. In Section 1.3 of the Distribution Agreement, SNC agreed to "faithfully and diligently use its best efforts to promote, advertise, market, offer for sale and sell" DoseLab in the U.S. and abroad.

77. SNC breached its obligations under Section 1.3 of the Distribution Agreement by:

a. removing DoseLab from its website,

b. poaching and attempting to poach current and committed DoseLab customers with misrepresentations about DoseLab's origins,

c. misrepresenting to DoseLab licensees and potential licensees that DoseLab suffered from "deficiencies,"

d. degrading DoseLab's status as compared to ImagePro,

e. denying Mobius employees access to SNC's booths at AAPM and ASTRO,

f. intentionally delaying DoseLab shipments, and

g. generally ceasing any efforts to promote, advertise, market, offer for sale and sell DoseLab.

78. Even before ImagePro's release, SNC deliberately chose not to promote DoseLab so as to create demand for TG-142 QA products. SNC then sought to exploit this demand with the release of ImagePro.

79. In Section 3(c) of the Transition Agreement, SNC agreed "not to encourage by any means, any DoseLab customer (potential or existing) to delay purchases to 09/08/2013 or thereafter."

80. SNC breached its obligations under Section 3(c) of the Transition Agreement by:

a. improperly using several DoseLab customer "leads" to encourage customers to forego DoseLab purchases in favor of ImagePro,

b. improperly misrepresenting to customers that it no longer sold DoseLab,

c. improperly misinforming customers that they could no longer purchase DoseLab from SNC,

d. improperly recommending that customers should "upgrade" to ImagePro, and

e. falsely claiming that DoseLab suffered from "deficiencies" and suggesting that DoseLab may not be compatible with future SNC products.

81. The implied covenant of good faith and fair dealing inheres in every contract governed by Delaware law. Under the implied covenant of good faith and fair dealing, SNC was obligated to refrain from arbitrary and unreasonable conduct that prevents the other party from receiving the fruits of the bargain.

82. SNC breached the implied covenant by terminating the Distribution Agreement in bad faith and portraying itself as a DoseLab partner and supporter while improperly using DoseLab as a blueprint for its own product, misappropriating DoseLab configuration and example files for direct use in ImagePro, and refusing to perform its obligations. SNC further breached the implied covenant by tortiously interfering with existing and prospective contracts between Mobius and DoseLab licensees.

83. Mobius is entitled to recover its actual damages for SNC's breaches of contract. Mobius intends to file with the American Arbitration Association a Notice of Claim for damages resulting from SNC's breaches of the Distribution Agreement and the Transition Agreement, per the Distribution Agreement's arbitration provision.

84. Mobius comes to this Court only for equitable relief. SNC's breaches of contract have caused and continue to cause Mobius irreparable harm that cannot be adequately compensated by an award of damages. Barring an injunction by this Court, such irreparable harm will continue. Accordingly, Mobius seeks a temporary injunction and permanent injunction to abate such conduct and return the parties to the status quo before SNC's malfeasance.

B. Trade Secret Misappropriation

85. Mobius incorporates by reference the allegations in each of the paragraphs above.

86. DoseLab's algorithms, visualization techniques, example files, configurations and parameters, and other DoseLab-exclusive technology are trade secrets under both common law and the Texas Uniform Trade Secrets Act, Texas Civ. Prac. Rem. Code §134A. DoseLab's algorithms, visualization techniques, example files, configurations and parameters, and other DoseLab-exclusive technology derive independent economic value from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use. These trade secrets include, but are not limited to, DoseLab's unique kV/MV and CT imaging algorithms, MLC strip test techniques, MLC log technology, and Starshot images, all of which give DoseLab the edge over competing products.

87. The TG-142 Report outlines a *de facto* standard for linear accelerator QA; however, no other TG-142 QA technology provides customers with the same level of power, accuracy, and efficiency as DoseLab. Mobius invested large sums of money and several years to develop, test, and perfect DoseLab. Mobius's long period of development, involving countless hours of research and development, serve as a stark contrast to SNC's short development of ImagePro. At the very least, SNC's misappropriation of Mobius's trade secrets gave SNC a roadmap and a huge head start in its project to clone DoseLab.

88. At all times, Mobius sought to safeguard its investment, and took reasonable steps to protect its confidential information and technology and maintain the secrecy of its trade secrets. DoseLab and its technology are protected by confidentiality and use restrictions present in its end-user license agreement and as discussed above, in Mobius's distributorship agreements. Mobius does not freely provide DoseLab for download, and even demonstration licenses require potential customers to agree to the DoseLab end-user license agreement. Exhibit A at ¶29.

89. SNC unapologetically misappropriated Mobius's trade secrets through breach of its duties to maintain secrecy and limit use, among other actions. By acknowledging and agreeing that Mobius had valuable confidential information, SNC owed a duty to maintain the secrecy of that confidential information and to limit its use. SNC, through improper means and without Mobius's express or implied consent, purposefully and knowingly examined and disassembled DoseLab to discover its underlying confidential design, structure, function, or source code. As a direct result of SNC's intentional misappropriation, Mobius's business, goodwill, and relationships with licensees has been damaged.

90. Mobius is entitled to recover its actual damages. Further to its actual damages, Mobius is entitled to an award of exemplary damages under the common law and the Texas Uniform Trade Secrets Act against SNC because SNC acted intentionally and maliciously. Mobius intends to file with the American Arbitration Association a Notice of Claim for damages resulting from SNC's willful and malicious misappropriation, per the Distribution Agreement's arbitration provision.

91. Mobius comes to this Court only for equitable relief to eliminate the commercial advantage SNC currently derives from its misappropriation. Under the Texas Uniform Trade Secrets Act, "actual or threatened misappropriation may be enjoined." Tex. Civ. Prac. Rem. Code §134A.003. SNC's actual misappropriation of Mobius's technology has caused and continues to cause Mobius irreparable harm that cannot be adequately compensated by an award of damages. Barring an injunction by this Court, such irreparable harm will continue. Accordingly, Mobius seeks a temporary injunction and permanent injunction to abate such conduct and return the parties to the status quo before SNC's malfeasance.

C. Trade Dress Infringement

92. Mobius incorporates by reference the allegations in each of the paragraphs above.

93. SNC has infringed on the non-functional portions of DoseLab's visualization and appearance. DoseLab's "look and feel" has acquired a secondary meaning among members of the radiation oncology community. SNC's infringement has created confusion among current and potential DoseLab licensees and users. Indeed, one of SNC's own presenters confused the origins of DoseLab and improperly identified DoseLab as an SNC product.

94. SNC's trade dress infringement includes, but is not limited to:

a. ImagePro's use of the same numbering scheme, same colors, and same ROI positioning that DoseLab uses in its kV/MV Imaging module;

b. ImagePro's use of the same internal configuration parameters, ROI coordinates, and multiple-phantom analysis algorithms that DoseLab uses in its kV/MV Imaging module;

c. ImagePro's use of the same red, yellow, and green rectangles that DoseLab uses for its graphical leaf representation, as well as verbatim mouseover text;

d. ImagePro's use of the same method of displaying multiple individual file result summaries in a tabular format that DoseLab uses for MLC QA module;

e. ImagePro's use of the same numbering scheme, number of ROIs, color-schemes and shapes for identifying ROIs that DoseLab uses for its Cone Beam CT imaging module;

f. ImagePro's use of the same scaling discrepancy, minimum uniformity, X positioning offset, and Y positioning offset parameters that DoseLab uses for its kv/MV imaging and Cone Beam CT imaging modules;

g. ImagePro's use of the same labeling scheme, color scheme, and display parameters that DoseLab uses for its Winston-Lutz, Flatness and Symmetry, and Database Viewer modules; and

h. ImagePro's use of the same method of displaying horizontal lines to indicate individual leaf location, same vertical lines to indicate the center of best fit, and same histogram display method that DoseLab uses for its MLC strip module.

95. As a direct result of this trade dress infringement, Mobius's business, goodwill, and relationships with licensees has been damaged. SNC has caused significant confusion in the marketplace, caused consumers to confuse the origins of DoseLab and ImagePro, and will continue to cause significant confusion if not stopped.

96. Mobius is entitled to recover its actual damages. Further to its actual damages, Mobius is entitled to an award of exemplary damages against SNC because SNC acted intentionally and maliciously. Mobius intends to file with the American Arbitration Association a Notice of Claim for damages resulting from SNC's willful and malicious infringement, per the Distribution Agreement's arbitration provision.

97. Mobius comes to this Court only for equitable relief. SNC's wrongful infringement of Mobius's trade dress has caused and continues to cause Mobius irreparable harm that cannot be adequately compensated by an award of damages. Barring an injunction by this Court, such irreparable harm will continue. Accordingly, Mobius seeks a temporary injunction and permanent injunction to abate such conduct and return the parties to the status quo before SNC's malfeasance.

D. Tortious Interference with Existing Contract

98. Mobius incorporates by reference the allegations in each of the paragraphs above.

99. SNC has tortiously interfered with existing contracts between Mobius and DoseLab licensees. Mobius enjoys contracts and business relationships with several licensees that do not expire for months, if not years. SNC has actual knowledge of these contracts and relationships through its own records, and willfully and intentionally interfered with these contracts.

100. Indeed, Section 4.7 of the Distribution Agreement makes clear that Mobius maintains a contractual relationship with its licenses through maintenance renewal packages. Section 4.7 further makes clear that "Inasmuch as the Maintenance Renewal Package involves services that will be provided directly by the Manufacturer [Mobius], Distributor [SNC] acknowledges and agrees that it is merely acting as the Manufacturer's sales representative in regard to the sale of any such Maintenance Renewal Packages." Thus, SNC is readily aware that the maintenance renewal packages associated with DoseLab licenses and DoseLab licensees are existing contracts that belong to Mobius.

101. In at least one instance, SNC tried to convince a DoseLab licensee to "upgrade" to ImagePro. In another instance, SNC falsely claimed that DoseLab had "deficiencies" that were remedied in ImagePro, and DoseLab could be incompatible with future products. In yet another instance, SNC contacted an existing DoseLab customer and actively encouraged the customer to drop DoseLab and purchase ImagePro. Upon information and belief, SNC has employed these same tactics with other current and potential licensees.

102. SNC's interference has proximately caused Mobius's injury, and Mobius has incurred actual damages and loss due to SNC's tortious interference. Mobius is entitled to recover its actual damages. Further to its actual damages, Mobius is entitled to an award of exemplary damages against SNC because SNC intentionally and maliciously interfered with

Mobius's existing contracts. Mobius intends to file with the American Arbitration Association a Notice of Claim for damages resulting from SNC's tortious interference, per the Distribution Agreement's arbitration provision.

103. Mobius comes to this Court only for equitable relief. SNC's tortious interference with Mobius's existing contracts has caused and continues to cause Mobius irreparable harm that cannot be adequately compensated by an award of damages. Barring an injunction by this Court, such irreparable harm will continue. Accordingly, Mobius seeks a temporary injunction and permanent injunction to abate such conduct and return the parties to the status quo before SNC's malfeasance.

E. Tortious Interference with Prospective Contract

104. Mobius incorporates by reference the allegations in each of the paragraphs above.

105. SNC has tortiously interfered with prospective contracts between Mobius and potential DoseLab licensees. Several potential licensees reached out to SNC seeking DoseLab for their institutions and treatment centers. In several instances, these potential licensees had already received approval from their institutions for the funds needed to purchase a DoseLab license. Accordingly, there was more than a reasonable probability that Mobius would have entered into or continued a business relationship with those potential licensees.

106. Rather than fill these orders, SNC intentionally misrepresented to these potential licensees that it no longer distributed DoseLab, that ImagePro was the upgraded version of DoseLab, or that DoseLab suffered from various "deficiencies." SNC's conduct was more than simply unfair, it was independently tortious. SNC committed these independently tortious acts with a conscious desire to prevent the business relationship from occurring. In the alternative, SNC knew that its interference was certain or substantially certain to occur as a result of its independently tortious acts.

107. SNC's interference has proximately caused Mobius's injury, and Mobius has incurred actual damages and loss due to SNC's tortious interference. Mobius is entitled to recover its actual damages. Further to its actual damages, Mobius is entitled to an award of exemplary damages against SNC because SNC intentionally and maliciously interfered with Mobius's prospective contracts. Mobius intends to file with the American Arbitration Association a Notice of Claim for damages resulting from SNC's tortious interference, per the Distribution Agreement's arbitration provision.

108. Mobius comes to this Court only for equitable relief. SNC's tortious interference with Mobius's prospective contracts has caused and continues to cause Mobius irreparable harm that cannot be adequately compensated by an award of damages. Barring an injunction by this Court, such irreparable harm will continue. Accordingly, Mobius seeks a temporary injunction and permanent injunction to abate such conduct and return the parties to the status quo before SNC's malfeasance.

109. All conditions precedent have been performed or have occurred.

VI.
Prayer for Relief

Through its breaches of contract, misappropriation of Mobius's trade secrets, trade dress infringement, and tortious interference with existing and prospective contracts, SNC has (1) deprived Mobius of DoseLab sales and opportunities, (2) tarnished the goodwill DoseLab has fostered among its licensees, (3) diminished the value of Mobius's intellectual property, and (4) generally harmed Mobius's business and reputation. However, Mobius seeks only equitable relief. In particular, Mobius respectfully requests that the Court, upon final hearing:

a. Permanently enjoin SNC from promoting, marketing, selling, and offering for sale SNC's ImagePro software product;

b. Permanently enjoin SNC from promoting, marketing, selling, and offering for sale any software products or modules derived through SNC's misappropriation of Mobius's trade secrets, regardless of whether these software products or modules are stand-alone products or incorporated into other products;

c. Permanently enjoin SNC from promoting, marketing, selling, and offering for sale any software products or modules incorporating Mobius's trade dress, regardless of whether these software products or modules are stand-alone products or incorporated into other products;

d. Order any and all other equitable relief to which Mobius is justly entitled;

e. Award attorneys' fees for SNC's willful and malicious trade secret misappropriation under Tex. Civ. Prac. Rem. Code §134A.005(3); and

f. Award attorneys' fees, costs, and any other relief to which Mobius is justly entitled.

VII.
Verified Application for Temporary Injunction

110. Mobius incorporates by reference the allegations in each of the paragraphs above.

111. Mobius seeks a temporary injunction under Texas Civil Practice and Remedies Code § 65.011 and Texas Rules of Civil Procedure 680 and 681 to preserve the status quo pending arbitration on the merits.

112. Mobius seeks to preserve the status quo that existed before SNC wrongly misappropriated its confidential information and trade secrets and used that information to create a knock-off product and interfere with its business relationships. Accordingly, Mobius requests a temporary injunction (and permanent injunction upon final hearing) enjoining SNC from (1) "promoting, marketing, advertising, selling, and offering for sale SNC's ImagePro software product or software modules therein" and (2) "promoting, marketing, selling, and offering for

sale any software products or modules derived through SNC's misappropriation of Mobius's trade secrets, regardless of whether these software products or modules are stand-alone products or incorporated into other products."

113. Mobius is willing to post a reasonable bond under Tex. R. Civ. P. 684, as directed by the Court.

114. Mobius respectfully requests a speedy and prompt hearing on its application for temporary injunction.

A. Facts Relevant to Injunctive Relief

115. Mobius incorporates the allegations in Section IV above, which are verified and supported by the affidavit of Mobius's founder, Dr. Nathan Childress, attached as Exhibit A.

B. Legal Standard

116. "The sole issue before the trial court in a temporary injunction hearing is whether the applicant may preserve the status quo of the litigation's subject matter pending trial on the merits." *Sharma v. Vinmar Int'l, Ltd.*, 231 S.W.3d 405, 419 (Tex. App.—Houston [14th Dist.] 2007, pet. dism'd) (citation omitted). "The status quo is the last actual, peaceable, noncontested status which preceded the pending controversy." *Id.* (citation omitted).

117. In order to obtain the relief afforded by a temporary injunction, "[a]n applicant must plead and prove three elements ... : (1) a cause of action against the defendant; (2) a probable right to the relief sought; and (3) a probable, imminent, and irreparable injury in the interim. *Id.* (citing *Butnaru v. Ford Motor Co.*, 84 S.W.3d 198, 204 (Tex. 2002)). However, the applicant is not required to establish that he or she will prevail upon a final trial on the merits. *Id.*

C. Probable Right to Relief

118. Mobius has established a likelihood of success on the merits of its trade secret misappropriation claim. This probable right to relief stems from SNC's disassembling, decompiling, or reverse engineering DoseLab's algorithms, visualization techniques, configurations and parameters, and other DoseLab-exclusive technology in violation of SNC's express covenant. "The improper use of trade secrets provides a proper basis for an injunction." *Southwest Research Institute v. Keraplast Technologies, Ltd.*, 103 S.W.3d 478, (Tex. App.—San Antonio 2003, no pet.); *see also* Tex. Civ. Prac. Code §134A.003 ("Actual or threatened misappropriation may be enjoined.").

119. Under applicable Texas law, trade secret misappropriation requires a plaintiff to show: (1) the existence of a trade secret, (2) that the trade secret was obtained through breach of a confidential relationship or discovered by improper means, (3) use of the trade secret without authorization, and (4) injury. *Atlantic Richfield Co. v. Misty Products, Inc.*, 820 S.W.2d 414, 422 (Tex. App.—Houston 1991, pet denied.).

1. DoseLab's Algorithms and Technology Constitute a Trade Secret

120. In this case, it cannot be legitimately disputed that DoseLab's algorithms, visualization techniques, example files, configurations and parameters, and other DoseLab-exclusive technology constitute trade secrets. "A trade secret is any formula, pattern, device, or compilation which is used in one's business and presents an opportunity to obtain an advantage over competitors who do not know or use it." *Sharma*, 231 S.W.3d at 424; *see also* Tex. Civ. Prac. Code §134A.002(6) (defining "trade secret").

121. The Texas Supreme Court has given Texas courts six factors to examine in determining whether information constitutes a trade secret: (1) the extent to which the information is known outside the claimant's business; (2) the extent to which the information is

known by employees and others involved in the claimant's business; (3) the extent of the measures taken by the claimant to guard the secrecy of the information; (4) the value of the information to the claimant and to its competitors; (5) the amount of effort or money expended by the claimant in developing the information; and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others. *See In re Bass*, 113 S.W.3d 735, 739 (Tex. 2003). A party claiming a trade secret need not satisfy all six factors because trade secrets do not fit neatly into each factor each time. *Id.*

122. In this case, DoseLab's algorithms, visualization techniques, example files, configurations and parameters for its kV/MV imaging functionality, MLC log functionality, MLC strip test functionality, cone beam CT functionality, flatness and symmetry functionality, Starshot functionality, and Winston-Lutz functionality qualify as trade secrets under the *In re Bass* factors.

123. First, Mobius's algorithms and exclusive functionality are not known outside its business. As discussed above, for example, Mobius employs unique algorithms in performing kV/MV and CT imaging analysis and DoseLab's MLC log and MLC strip test configurations and techniques are exclusive to DoseLab. TG-142 QA is well-known in the industry, to be sure, however, no other software includes the same TG-142 QA algorithms as DoseLab. *See Wellogix, Inc. v. Accenture, LLP*, 823 F. Supp. 2d 555, 562–563 (S.D. Tex. 2011) (confirming jury's verdict under Texas law when "the jury was presented with documentary evidence indicating that, though the functions of Wellogix's software were known to the industry, other software companies did not have identical functions in their software."); *see also Imperial Chem. Indus. Ltd. v. National Distillers & Chem. Corp.*, 342 F.2d 737, 742 (2d Cir. 1965) ("A trade secret can exist in a combination of characteristics and components, each of which, by itself, is in

the public domain, but the unified process, design and operation of which, in unique combination, affords a competitive advantage and is a protectable secret.")

124. Second, Mobius has taken measures to guard the secrecy of its information. For example, Access to the DoseLab source code is heavily restricted and those few employees with access are subject to confidentiality obligations. Exhibit A at ¶29. All employees have a duty to maintain the confidentiality of DoseLab's most inner workings. *Id.* Additionally, Mobius does not freely provide DoseLab for download, and even demonstration licenses require potential licensees to obtain log-in credentials and a trial license that likewise limits use and protects confidentiality. *Id.* Even after receiving the software, a user must accept an end-user license agreement, which precludes improper use, such as reverse engineering. *Id.* In this case, SNC expressly covenanted and agreed that it would not decompile, disassemble, or reverse engineer Mobius's products.

125. Even if DoseLab did not have these safeguards in place, courts have held that requisite secrecy is retained if "the disclosure occurs in a context that would not ordinarily occasion public exposure, and in a manner that does not carelessly exceed the imperatives of a beneficial transaction." *Wellogix*, 823 F. Supp. 2d at 564; *see also Metallurgical Indus. Inc. v. Fourtek, Inc.*, 790 F.2d 1195, 1200 (5th Cir. 1986) (finding no surrender of secrecy where disclosures were not public announcements and secrets divulged only to businesses with whom plaintiff dealt with expectation of profit).

126. Third, Mobius's algorithms and exclusive functionality have immeasurable value to Mobius. As a company, Mobius is still in its infancy, and DoseLab along with two other products make up its entire product line. By contrast, SNC is a much larger company that sells

dozens of products. Thus, Mobius's algorithms and exclusive functionality are certainly more valuable to Mobius than they are to SNC.

127. Fourth, Mobius's founder, Dr. Nathan Childress, and his development team dedicated years to perfecting and refining DoseLab's algorithms and features in order to make it a successful commercial product. Exhibit A at ¶30. Dr. Childress and his team recognized the shortcomings of other TG-142 QA products and created innovative ways of resolving those shortcomings and more. DoseLab's significantly-better-than-expected sales are proof of DoseLab's superiority. "When money and time are invested in the development of a procedure or device which is based on an idea which is not new to a particular industry, and when that certain procedure or device is not generally known, trade secret protection will exist." *Keraplast*, 103 S.W.3d at 483.

128. At the preliminary stage of deciding whether to grant a temporary injunction, a trial court does not determine whether or not a trade secret actually exists. *Center for Economic Justice v. American Ins. Ass'n*, 39 S.W.3d 337, 343 (Tex. App.—Austin 2001, no pet.). "Rather, the trial court ascertains whether the applicant has established that the information is entitled to trade-secret protection until the trial on the merits." *Id.*; *see also Mabrey v. Sandstream, Inc.*, 124 S.W.3d 302, 311 (Tex. App.—Fort Worth 2003, no pet.). In this case, Mobius has established at the very least that its algorithms and exclusive functionality are entitled to trade-secret protection until the trial, or arbitration, on the merits.

2. SNC Improperly Obtained Mobius's Trade Secrets

129. SNC improperly acquired Mobius's trade secrets. "Improper means of acquiring another's trade secrets include theft, fraud, unauthorized interception of communications, inducement of or knowing participation in a breach of confidence, and other means either wrongful in themselves or wrongful under the circumstances of the case." *Astoria Indus. of*

Iowa, Inc. v. SNF, Inc., 223 S.W.3d 616, 636 (Tex. App.—Fort Worth 2007, pet. denied); *see also* Tex. Civ. Prac. Rem. Code § 134A.002(3) (defining "misappropriation" to include "disclosure or use of a trade secret of another without express or implied consent by a person who: (i) used improper means to acquire knowledge of the trade secret."). The existence of a confidentiality agreement between two parties can establish that a confidential relationship existed between the parties. *IAC, Ltd. v. Bell Helicopter Textron, Inc.*, 160 S.W.3d 191, 199 (Tex. App.—Fort Worth 2005, no pet.); *see also K & G Oil Tool & Service Co. v. G & G Fishing Tool Service*, 594 S.W.2d 782, 787 (Tex. 1958) ("The basis of the trade secret case is a 'breach of contract or wrongful disregard of confidential relationships.").

130. Section 9.2 of the Distribution Agreement states:

> 9.2. Covenant Not to Use or Disclose. With respect to each party's Confidential Information, and except as expressly authorized herein, ***each party hereby agrees that during the Term hereof and at all times thereafter it shall not use or disclose such Confidential Information to any person or entity***, except to its own employees having a "need to know" (and who are themselves bound by similar nondisclosure restrictions), and to such other recipients as the other party may approve in writing; provided, that all such recipients shall have first executed a confidentiality agreement in a form acceptable to the owner of such information. ***Distributor [SNC] may not***: (i) alter or remove from any Product or associated documentation owned or provided by the Manufacturer [Mobius] any proprietary, copyright, trademark or trade secret legend, or (ii) ***attempt to decompile, disassemble or reverse engineer Manufacturer's Products (and any information derived in violation of such covenant shall automatically be deemed Confidential Information owned exclusively by the Manufacturer)***. Each party shall use at least the same degree of care in safeguarding the other party's Confidential Information as it uses in safeguarding its own confidential information.

See Exhibit 4 to Childress Affidavit at §9.2. Parties to a contract may limit their rights to take action they previously had been free to take. Under the Distribution Agreement, SNC agreed that it would not "use or disclose such Confidential Information to any person or entity, except to its own employees having a 'need to know.'" SNC further agreed that it would not "attempt to

decompile, disassemble or reverse engineer Manufacturer's Products." *Id.*; *see also* Tex. Civ. Prac. Rem. Code § 134A.002(2) (defining improper means" to include "theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, to limit use, or to prohibit discovery of a trade secret, or espionage through electronic or other means."). As discussed above, SNC breached its obligations, misappropriated Mobius's trade secrets, and released its ImagePro knock-off.

3. SNC Improperly Used Mobius's Trade Secrets

131. SNC's improper and unauthorized use of Mobius's trade secrets is beyond dispute. First, there can be no dispute that SNC "used" Mobius's trade secrets. As Judge Ellison explained in *Wellogix*, "'use' of a trade secret means commercial use, by which a person seeks to profit from the use of the secret." *Wellogix*, 823 F. Supp. 2d at 566 (citing *Atlantic Richfield Co.*, 820 S.W.2d at 421). Here, SNC clearly sought to profit from Mobius's know-how and years-long development of DoseLab.

132. Second, there can likewise be no dispute that SNC's use of Mobius's protected technology was unauthorized. Dr. Childress repeatedly admonished SNC employees, including its CEO, that DoseLab is to be used "only by salespeople for the purposes of selling DoseLab" and that "DoseLab is not to be used as a demo product for your software teams, nor is it to be used as a tool to guide development of any Sun Nuclear Products." Exhibit A at ¶¶16–17.

4. Mobius Has Been Harmed by SNC's Misappropriation

133. "When a defendant possesses trade secrets and is in a position to use them, harm to the trade secret owner may be presumed." *IAC, Ltd.*, 160 S.W.3d at 200. Not only is SNC in a position to use Mobius's trade secrets, SNC has used and is using those trade secrets to poach current and potential DoseLab licensees from Mobius. SNC has initiated a campaign of misrepresentation and misinformation in order to tarnish DoseLab's reputation and compel

current and potential DoseLab licensees to purchase ImagePro. SNC has intentionally deprived Mobius of DoseLab sales and opportunities, tarnished the goodwill DoseLab has fostered among its licensees, diminished the value of Mobius's intellectual property, and generally harmed Mobius's business and reputation.

D. Damages Would Be an Inadequate Remedy

134. In *Sharma v. Vinmar International*, the Houston Court of Appeals described the inadequate remedy requirement of a temporary injunction:

> A party seeking a temporary injunction must show it has a probable, imminent, and irreparable injury in the interim between the temporary injunction hearing and the trial on the merits. An injury is irreparable if the injured party cannot be adequately compensated in damages or if the damages cannot be measured by any certain pecuniary standard. That is, the applicant has to establish there is no adequate remedy at law for damages.

231 S.W.3d at 426–427.

135. Texas courts have found irreparable harm and inadequate remedy at law in situations similar to the present case. *See, e.g., Sharma*, 231 S.W.3d at 427 ("The potential damage caused by the loss of Vinmar's isoprene and caprolactum business, even if not complete, cannot be easily calculated and therefore a legal remedy is inadequate."); *Intercontinental Terminals Co., LLC v. Vopak North America, Inc.*, 354 S.W.3d 887, 895-96 (Tex. App.—Houston [1st Dist.] 2011, no pet.) ("Threatened injury to a business's reputation and goodwill with customers is frequently the basis for temporary injunctive relief. While such injuries are not categorically irreparable, the irreparable injury requirement is satisfied when injuries of this nature are difficult to calculate or monetize."); *Frequent Flyer Depot, Inc. v. American Airlines, Inc.*, 281 S.W.3d 215 (Tex. App.—Fort Worth 2009, pet. denied) ("Disruption to a business can be irreparable harm. Moreover, assigning a dollar amount to such intangibles as a company's loss of clientele, goodwill, marketing techniques, and office stability, among others, is not

easy."); Tex. Civ. Prac. Rem. Code § 134A.003(a) (stating that an injunction "may be continued for an additional reasonable period of time in order to eliminate commercial advantage that otherwise would be derived from the misappropriation").

136. In this case, as in *Sharma*, *Intercontinental Terminals*, and *Frequent Flyer Depot*, Mobius has suffered and continues to suffer disruption to its business, loss of clients, loss of goodwill, and loss of reputation because of SNC's willful misappropriation. Among other things, SNC's misconduct has resulted in licensees not receiving their orders, has caused licensees to question whether Mobius will support DoseLab, and creates a risk that current and potential DoseLab licensees will abandon DoseLab. Additionally, not only are current and future DoseLab's sales in jeopardy, but SNC's inappropriate and tortious conduct could foreclose sales opportunities for other Mobius products.

137. These losses to Mobius's DoseLab business cannot be easily calculated, which makes a legal remedy inadequate. *T-N-T Motorsports, Inc. v. Hennessey Motorsports, Inc.*, 965 S.W.2d 18, 24 (Tex. App.—Houston [1st Dist.] 1998, pet. dism'd) (affirming temporary injunction based on testimony that lost goodwill would be "immeasurable").

E. Prayer

138. To ensure that this imminent, irreparable harm does not continue, immediate injunctive action is required. Mobius respectfully requests a prompt hearing on its application for temporary injunction. Mobius respectfully requests that, upon the hearing on Mobius's application for temporary injunction, the Court:

a. Enjoin SNC, pending trial or arbitration on the merits, from:

i. "Promoting, marketing, advertising, selling, and offering for sale SNC's ImagePro software product or software modules therein" and

ii. "Promoting, marketing, selling, and offering for sale any software products or modules derived through SNC's misappropriation of Mobius's trade secrets, regardless of whether these software products or modules are stand-alone products or incorporated into other products."

b. Order any and all other equitable relief to which Mobius is justly entitled;

c. Award attorneys' fees for SNC's willful and malicious trade secret misappropriation under Tex. Civ. Prac. Rem. Code §134A.005(3); and

d. Award attorneys' fees, costs, and any other relief to which Mobius is justly entitled.

Dated: October 11, 2013

Respectfully submitted,

/s/ Chanler A. Langham

Chanler A. Langham
State Bar No. 24053314
clangham@susmangodfrey.com
John P. Lahad
State Bar No. 24068095
jlahad@susmangodfrey.com
SUSMAN GODFREY L.L.P.
1000 Louisiana Street, #5100
Houston, TX 77002
Telephone: (713) 653-7807
Facsimile: (713) 654-6666

Attorneys for Plaintiff
Mobius Medical Systems, LP

EXHIBIT A

CAUSE NO. 2013-61294

Mobius Medical Systems, LP	§	In the District Court of
	§	
Plaintiff,	§	
	§	
v.	§	Harris County, Texas,
	§	
Sun Nuclear Corporation	§	
	§	
Defendant.	§	_____ Judicial District

Affidavit of Dr. Nathan Childress
In Support Of Plaintiff's Original Petition and
Verified Application for Temporary Injunction

I, Nathan Childress, Ph.D., declare as follows:

1. My name is Nathan Childress, and I am the founder of Mobius Medical Systems, L.P. ("Mobius") based in Bellaire, Texas. I submit this declaration in support of Mobius's Original Petition and Verified Application for Temporary Injunction. I have personal knowledge of the facts contained in this affidavit.

2. I graduated *magna cum laude* from the University of Missouri-Columbia in 2001 with a major in Chemical Engineering and a minor in Mathematics. In 2002, I earned my M.S. degree, also from the University of Missouri-Columbia, in Nuclear Engineering. I earned a Ph.D. from the University of Texas M.D. Anderson Cancer—generally regarded as one of the elite medical physics programs in the nation—in 2004 under the supervision of Dr. Isaac Rosen. I am a licensed medical physicist in Texas (No. MP10065) and certified in Therapeutic Radiologic Physics by the American Board of Radiology. Since 2007, I have served as a section editor for the Journal of Applied Clinical Medical Physics. I have been published in several peer-reviewed journals, and have presented multiple times at industry meetings and conferences. Attached as Exhibit 1 to this affidavit is a true and correct copy of my curriculum vitae.

3. I founded Mobius in 2010 as a Houston, Texas-based developer of cutting-edge software used in the field of modern radiation oncology. Radiation oncology involves the treatment and imaging of cancer patients with any form of radiation.

4. Attached as Exhibit 2 to this affidavit is a true and correct copy of the American Association of Physicists in Medicine 2009 Task Group 142 Report on the QA of Medical Accelerators ("the TG-142 Report"). Nearly all healthcare institutions and treatment centers in the U.S. and abroad look to the TG-142 Report guidelines to ensure that their radiation treatment and image guidance machines are working properly. The TG-142 Report has become the *de facto* standard for medical linear accelerator QA.

5. DoseLab has been Mobius's most successful product. DoseLab is fast, powerful software used to perform quality assurance (QA) for radiation oncology linear accelerators. DoseLab provides accurate, efficient, and powerful TG-142 QA for any kind of linear accelerator-based technology used in modern radiation oncology including intensity-modulated radiotherapy (IMRT), volumetric modulated arc therapy (VMAT), stereotactic radiosurgery (SRS), and stereotactic body radiation therapy (SBRT).

6. DoseLab gives users the ability to perform critical imaging tests using multiple "phantoms." "Phantoms" are objects made of plastic and metal used to test imaging and treatment systems without having to use actual patients. Phantoms typically possess features that allow clinics and treatments centers to test a specific imaging or treatment parameter in a consistent and reproducible way. Clinics and treatment centers traditionally have a mix of treatment and imaging equipment and since different equipment relies on different phantoms for testing, clinics and treatment centers have a mix of phantoms. DoseLab provides these clinics

with the ability to support different phantoms from different manufacturers, which avoids buying multiple phantom-specific software products or relying on a single set of phantoms.

7. Mobius released DoseLab in May 2010. Initially, DoseLab was sold through a non-exclusive distributor called LifeLine Systems, Inc., ("LifeLine"), a Texas company. Attached as Exhibit 3 to this affidavit is a true and correct copy of the July 9, 2010 Software Distribution Agreement between Mobius and LifeLine.

8. Later in 2010, I was approached by Jeff Simon of Sun Nuclear Corporation ("SNC"), who offered to distribute DoseLab. At that time, SNC did not offer a software product that could perform TG-142 QA, like DoseLab. SNC wanted to be DoseLab's exclusive distributor of DoseLab in the United States and internationally. SNC, at the time, was already distributing some of LifeLine's software products as well. As I understand it, SNC leveraged its existing relationship with LifeLine and persuaded LifeLine to cede distribution rights for DoseLab for a 5% commission on sales derived from LifeLine's DoseLab sales leads. I later received a phone call from LifeLine asking whether SNC was successfully selling DoseLab. As I understood it, LifeLine had not received any commissions from SNC for its DoseLab leads.

9. SNC became the exclusive distributor of DoseLab in non-U.S. markets on January 1, 2011 and in the U.S. on March 1, 2011. Attached as Exhibit 4 to this affidavit is a true and correct copy of the Software Distribution Agreement between Mobius and SNC.

10. In April 2011, Jeff Simon of SNC provided the following sales forecast for DoseLab:

	2011	2012	2013
Global Forecast	31	55	75
Domestic Revenues	$ 166,687	$ 295,735	$ 403,275
Domestic Costs	$ 131,595	$ 233,475	$ 318,375
INTL Revenues	$ 197,393	$ 350,213	$ 477,563
INTL Costs	$ 157,914	$ 280,170	$ 382,050

Total SNC Revenues	$ 364,080	$ 645,948	$ 880,838
Total SNC Costs	$ 289,509	$ 513,645	$ 700,425

Actual DoseLab licenses for the same years were:

	2011	2012	2013
Actual Licenses	60	185	>104
Total Revenues (based on MSRP)	$ 572,919	$ 3,000,022	$ > 2,000,000

11. Mobius employees were present at the SNC booth at the industry's AAPM conference in 2011. More visitors to the booth were interested in DoseLab than nearly any other product offered by SNC. This prompted SNC's founder and former CEO, William Simon, to say afterwards to me, "You beat us."

12. Jeff Simon repeatedly expressed disdain about writing checks to Mobius for its share of the DoseLab proceeds. At the ASTRO conference in 2011, Jeff Simon verbally offered to purchase DoseLab outright from Mobius. His offer was so low that we did not seriously consider it.

13. On March 8, 2013, Jeff Simon called to tell me that SNC was terminating the distribution agreement. He did not give a specific reason. I was very surprised. DoseLab sales had exceeded expectations, and the parties' business relationship appeared strong. We routinely fielded questions from SNC's sales people and presented DoseLab to prospective customers via webinars hosted by SNC. Mobius employees, including me, assisted in the development of a group of phantoms to be used along with DoseLab.

14. Attached as Exhibit 5 to this affidavit is a true and correct copy of the Transition Agreement between Mobius and SNC.

15. On March 27, 2013, Mobius received a request from its support portal on www.doselab.com from SNC employee Sindhu Gangisetty stating "I need doselab pro 6.5

version for download. thanks." Upon receiving the request, I researched the employee's role at SNC. Her LinkedIn page said the following:

Software Test Engineer
Sun Nuclear Corporation
March 2013 – Present (1 month)Melbourne, Florida Area

Performing testing on some features of ImageCheck web application, a tool for performing QA activities on Linear Accelerators, which are used to deliver accurate dosage of radiation therapy (chemotherapy) to cancer patients. the goal of the tools is to maximize beam intensity and energy on cancerous cells and minimize the energy on healthy cells.
Microsoft Team Foundation Server - Test Manager, Visual Studio 2012, Design Acceptance Test Plans, Test cases, VMware Workstation 9.
Domain: Image Guided Radiation Therapy (IGRT), LINAC (Linear Accelerator).
Env: Agile development, Scrum.
Training on ISO 13485:2003 Standard.

16. The same day, I responded to Ms. Gangisetty's request with an email asking "What do you need DoseLab 6.5 for?" She responded that she was "interested in the latest features of DoseLab pro 6.5." I replied and copied Jeff Simon. In my reply, I reminded Ms. Gangisetty that SNC does not have permission for DoseLab to be installed anywhere at Sun Nuclear for anything other than sales demonstration purposes. Mr. Simon emailed back saying, "I do not personally understand what happened here but suspect it was harmless curiosity."

17. In a separate message to Mr. Simon, I reminded him that DoseLab is to be used "only by salespeople for the purposes of selling DoseLab" and that "DoseLab is not to be used as a demo product for your software teams, nor is it to be used as a tool to guide development of any Sun Nuclear Products." In his response to me, Mr. Simon said, "This associate is new and was trying to learn about the industry. She should not have contacted Mobius, and I suspect she contacted other companies too out of curiosity."

18. DoseLab transmits a message to Mobius's webserver to check for updates each time a licensee launches the software. Mobius's webserver logs these messages, the license

name, and the internet protocol address ("IP address") of the message's origin. Between January 2013 and September 2013, Mobius's webserver logged nearly 750 messages from SNC's Brevard County, Florida-based IP address. For reference, Mobius logged less than ten messages per individual DoseLab trial user during the same period.

19. Until December 2012, SNC provided monthly lead reports that listed each clinic or treatment center in the DoseLab sales pipeline. Mobius has received no other lead reports since December 2012. Without this customer information, Mobius cannot contact potential customers to present DoseLab. This is particularly damaging if they do not fulfill their DoseLab sales quota for 2013.

20. On September 10, 2013, DoseLab could no longer be found on SNC's website. SNC refused to allow Mobius employees into its booths at the 2013 Meeting of the American Association of Physicists in Medicine (AAPM) and the 2013 American Society for Radiation Oncology Conference.

21. On September 16, 2013, Mobius's COO Stan Eshelman received an email from a potential licensee whose institution needed DoseLab quickly and had already approved the purchase of DoseLab. The licensee's email indicated that SNC approached the licensee for an opportunity to demonstrate ImagePro prior to their DoseLab installation.

22. On September 17, 2013, Mr. Eshelman received a call from one potential DoseLab licensee inquiring about DoseLab. When potential licensee talked to SNC, SNC told him that SNC no longer sold DoseLab. According to the customer, SNC tried to sell him ImagePro.

23. On September 19, 2013, SNC hosted an ImagePro webinar on the internet. A Houston, Texas-based medical physicist, Andrew Soderstrom, presented the webinar. In

response to a question about which product, DoseLab or ImagePro, he would recommend, the presenter said, "ImagePro is not part of DoseLab at this point. ... Being that they're both Sun Nuclear devices, it would be my impression, or my assumption, that they will kind of pull in more of the functionality of DoseLab into the IDD as the software and hardware become a little bit more developed." IDD is the physical equipment on which ImagePro is loaded.

24. I attended the recent meeting of the American Society for Radiation Oncology (ASTRO), held from September 22–24 in Atlanta, Georgia. SNC had a booth at the meeting. According to one DoseLab customer, when he approached SNC employees at SNC's booth to discuss renewing his DoseLab maintenance agreement, SNC tried to sell him ImagePro instead.

25. On September 25, 2013, Mr. Eshelman received a call from a DoseLab licensee asking about his DoseLab maintenance renewal. This licensee purchased a DoseLab license in 2013 with a maintenance package valid until 2015. According to this licensee, SNC Service Contract Manager John Archipolo contacted him regarding another TG-142 QA product, ImagePro, even though his DoseLab license would not expire for nearly 18 months. Mr. Archipolo pitched ImagePro as an "upgrade" to DoseLab and offered the licensee "a maintenance software upgrade path." Additionally, the licensee was unsure whether DoseLab would be continued to be supported at all.

26. On October 1, 2013, SNC regional account manager Stacey Geier contacted a DoseLab licensee awaiting final approval from his institution. According to the licensee, Ms. Geier attempted to get the licensee to cancel his DoseLab purchase in favor of an ImagePro purchase by claiming that DoseLab had some "deficiencies" and suggesting that DoseLab may not be compatible with future SNC products.

27. On October 1, 2013, Mobius Account Manager Mickey Martin received an email from a DoseLab licensee asking if Mobius still supports DoseLab. According to the licensee, SNC told him that SNC no longer supports DoseLab.

28. An institution or treatment center often will purchase from SNC a set of phantoms and DoseLab at the same time. In the past, SNC shipped the software and the phantoms together. On October 2, 2013, a DoseLab licensee emailed Mobius asking why he had not received DoseLab in the same box as his phantoms, as expected. Mobius has no record of this licensee's purchase. His September 6, 2013 purchase receipt indicates a shipping date of September 26, 2016 for DoseLab.

29. Access to the DoseLab source code is heavily restricted and those few employees with access are subject to confidentiality obligations. All employees have a duty to maintain the confidentiality of DoseLab's most inner workings. Mobius does not freely provide DoseLab for download, and even demonstration licenses require potential customers to obtain log-in credentials and a trial license that likewise limits use and protects confidentiality. Even after receiving the software, a user must accept an end-user license agreement, which precludes improper use, such as reverse engineering.

30. I do not have detailed time records of my work on DoseLab, but I considered it to be my full-time job, and often spent more than 80 hours per week on its development. Since DoseLab's initial release in 2010, the Mobius development team and I have spent countless hours adding features and refining its functionality. No one at SNC participated in this development effort.

Executed this 11th day of October, 2013, at Houston, Texas.

Dr. Nathan Childress

Sworn to and subscribed before me on this 11th day of October, 2013, at Houston, Harris County, Texas.

SANDRA L. WILKINSON
Notary Public, State of Texas
Commission Expires 10-29-2016

Notary Public, State of Texas

EXHIBIT 1

NATHAN L. CHILDRESS, PH.D., DABR

nathan@mobiusmed.com

WORK EXPERIENCE

Founder, Mobius Medical Systems, LP, May 2010 – present.
Developed DoseLab TG142, DoseLab Pro, FractionCHECK, Mobius3D, and MobiusFX radiation oncology quality assurance software suites for clinical use in most international markets. Obtained ISO 13485 certifiation, and maintain compliance with all IEC 62304 guidelines.

Instructor, Baylor College of Medicine, September 2004 – May 2010.
Experience with new linac commissioning (Varian 6EX, Varian 21iX), IGRT commissioning and implementation (Varian 21iX), SBRT commissioning and implementation, IMRT and conventional treatment planning system commissioning (CORVUS and Pinnacle^3), implementing dose verification software (RadCalc) for multiple clinics, external beam and HDR shielding design, total body irradiation, external beam treatments (Varian 21EX, Siemens Primus, Siemens KD, and TomoTherapy), LDR brachytherapy (prostate implants with VariSeed, T+O and gold implants with Pinnacle^3), HDR brachytherapy (Mammosite, endobronchial, and vaginal cylinder treatmetns with Varian VariSource and BrachyVision), Mosaiq system management, intravascular brachytherapy (Novoste Beta-Cath), SBRT planning (Novalis), and Argus QA software. Assisted with the oversight of the dosimetry and therapist groups, including performance evaluations, creating rotation schedules, and developing an online documentation program. Assisted with the transition to a fully paperless department through implementing electronic medical records for all aspects of patient treatments and staff communication.

Software and Web Developer, DoseLab.com and MedPhysFiles.com, 2003 – present.
Designed and support several open-source programs, including DoseLab (over 1,000 active clinical and research sites), HDR secondary calculation (over 500 clinical users), a compilation of radiation dose organ tolerances (downloaded over 4,000 times), and the MedPhysFiles website (over 40,000 files freely distributed).

EDUCATION

Ph.D., Medical Physics, The University of Texas M. D. Anderson Cancer Center, September 2004. Dissertation: *The Design and Evaluation of a 2D Dose Verification System for Intensity Modulated Radiotherapy*. 3.75 GPA. Implemented a novel radiographic film calibration technique, performed extensive Kodak EDR2 film characterization tests, and designed radiation dose verification software (DoseLab). Advisor: Dr. Isaac Rosen.

M.S., Nuclear Engineering, specialty in Medical Physics, University of Missouri-Columbia, January 2002. Thesis: *MCNP analysis and optimization of a triple crystal phoswich detector*. 4.0 GPA. Advisor: Dr. William Miller.

B.S., Chemical Engineering, minor in Mathematics, Honor's degree, Magna Cum Laude, University of Missouri-Columbia, December 2001. 3.85 GPA.

CERTIFICATIONS

- The American Board of Radiology – certified in Therapeutic Radiologic Physics.
- Texas licensed medical physicist – MP10065.

PROFESSIONAL AFFILIATIONS

- Section Editor, Journal of Applied Clinical Medical Physics, 2007 – present.
- Member, AAPM Website Editorial Board, 2007 – present.
- Member, American Association of Physicists in Medicine (AAPM), 2002 – present.

FELLOWSHIPS, AWARDS AND HONORS

- American Legion Auxiliary Fellowship, October 2002 – September 2004.
- Graduate School of Biomedical Sciences Dean's Scholarship, August 2001 – September 2004.
- Selected for the Department of Energy Health Physics Fellowship, May 2001.
- University of Missouri G. Ellsworth Huggins Fellowship, May 1999.

PUBLICATIONS

- S.F. Kry, J. Jones, N. Childress, "Implementation and Evaluation of an End-to-End IGRT Test," Journal of Applied Clinical Medical Medical Physics **13** (2012).
- *N. Childress*, R.A. White, C. Bloch, M. Salehpour, L. Dong, I. Rosen, "Retrospective Analysis of 2D Patient-Specific IMRT Verifications," Medical Physics **32**, 838-850 (2005).
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- I. Rosen, H. Liu, *N. Childress*, Z. Liao, "Interactively Exploring Optimized Treatment Plans," International Journal of Radiation Oncology Biology Physics **61**, 570-582 (2005).
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- *N. Childress*, L. Dong, I. Rosen, "Rapid radiographic film calibration for IMRT verification using automated MLC fields," Medical Physics **29**, 2384-2390 (2002).
- *N. Childress*, W. Miller, "MCNP Analysis and Optimization of a Triple Crystal Phoswich Detector," Nuclear Instruments and Methods in Physics Research Section A **490**, 263-270 (2002).

LECTURES AND PRESENTATIONS

- *N. Childress*, I. Rosen, "Effect of Processing Time Delay On the Dose Response of Kodak EDR2 Film," 2004 American Association of Physicists in Medicine Annual Meeting oral presentation.
- *N. Childress*, I. Rosen, "Automatic Detection of IMRT Delivery Errors Using a Quantitative 2D Dosimetric Verification System," 2004 American Association of Physicists in Medicine Annual Meeting oral presentation.
- *N. Childress*, "Clinical Implementation of DoseLab Software," The University of Texas Southwestern Medical Center at Dallas, June 2004, invited lecture.
- *N. Childress*, "An Introduction to Patient-Specific IMRT Film QA," The University of Texas M. D. Anderson Cancer Center Intensity Modulated Radiotherapy short course, April 2003 and September 2003, invited lecture.
- *N. Childress*, I. Rosen, "The Design and Testing of Novel Clinical Parameters for Dose Comparison," 2003 American Association of Physicists in Medicine Annual Meeting poster exhibition.
- *N. Childress*, I. Rosen, "Clinical Experience with Kodak EDR2 Film for Patient-Specific IMRT Quality Assurance," 2003 American Association of Physicists in Medicine Annual Meeting poster exhibition.
- *N. Childress*, I. Rosen, "An Introduction to NAT values and the NAT Index for 2D Dose Comparisons," Fall 2002 Southwest American Association of Physicists in Medicine Meeting Young Investigators oral presentation.
- *N. Childress*, L. Dong, I. Rosen, "Rapid Radiographic Film Calibration for IMRT Verification Using Automated MLC Fields," 2002 American Association of Physicists in Medicine Annual Meeting oral presentation.

REFERENCES

Available upon request

EXHIBIT 2

Task Group 142 report: Quality assurance of medical accelerators[a)]

Eric E. Klein[b)]
Washington University, St. Louis, Missouri

Joseph Hanley
Hackensack University Medical Center, Hackensack, New Jersey

John Bayouth
University of Iowa, Iowa City, Iowa

Fang-Fang Yin
Duke University, Durham, North Carolina

William Simon
Sun Nuclear Corp., Melbourne, Florida

Sean Dresser
Northside Hospital, Atlanta, Georgia

Christopher Serago
Mayo Clinic, Jacksonville, Florida

Francisco Aguirre
M. D. Anderson Cancer Center, Houston, Texas

Lijun Ma
University of California, San Francisco, San Francisco, California

Bijan Arjomandy
M. D. Anderson Cancer Center, Houston, Texas

Chihray Liu
University of Florida, Gainesville, Florida

Consultants:

Carlos Sandin
Elekta Oncology, Crawley, United Kingdom

Todd Holmes
Varian Medical Systems, Palo Alto, California

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The task group (TG) for quality assurance of medical accelerators was constituted by the American Association of Physicists in Medicine's Science Council under the direction of the Radiation Therapy Committee and the Quality Assurance and Outcome Improvement Subcommittee. The task group (TG-142) had two main charges. First to update, as needed, recommendations of Table II of the AAPM TG-40 report on quality assurance and second, to add recommendations for asymmetric jaws, multileaf collimation (MLC), and dynamic/virtual wedges. The TG accomplished the update to TG-40, specifying new test and tolerances, and has added recommendations for not only the new ancillary delivery technologies but also for imaging devices that are part of the linear accelerator. The imaging devices include x-ray imaging, photon portal imaging, and cone-beam CT. The TG report was designed to account for the types of treatments delivered with the particular machine. For example, machines that are used for radiosurgery treatments or intensity-modulated radiotherapy (IMRT) require different tests and/or tolerances. There are specific recommendations for MLC quality assurance for machines performing IMRT. The report also gives recommendations as to action levels for the physicists to implement particular actions, whether they are inspection, scheduled action, or immediate and corrective action. The report is geared to be flexible for the physicist to customize the QA program depending on clinical utility. There are specific tables according to daily, monthly, and annual reviews, along with unique tables for wedge systems, MLC, and imaging checks. The report also gives specific recommendations regarding setup of a QA program by the physicist in regards to building a QA team, establishing procedures, training of personnel, documentation, and end-to-end system checks. The tabulated items of this report have

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been considerably expanded as compared with the original TG-40 report and the recommended tolerances accommodate differences in the intended use of the machine functionality (non-IMRT, IMRT, and stereotactic delivery). © *2009 American Association of Physicists in Medicine.*
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Key words: accelerator, QA, quality assurance, radiotherapy

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I. INTRODUCTION

I.A. Purpose

The AAPM TG-40[1] report published in 1994 is a widely used and referenced document which includes recommendations for general quality assurance (QA) tests for medical linear accelerators. Since the publication of TG-40, several new technologies have been developed and are now commonly used in clinical practice. These technologies include multileaf collimation (MLC), asymmetric jaws, dynamic and virtual wedges, and electronic portal imaging devices (EPIDs). Image guidance devices such as cone-beam CT (CBCT), static kilovoltage (kV) imaging, and respiratory gating were rarely used in 1994. In addition, TG-40 did not consider the demands placed on an accelerator by procedures such as stereotactic radiosurgery (SRS), stereotactic body radiation therapy (SBRT), total body photon irradiation (TBI), and intensity-modulated radiotherapy (IMRT) treatment. Also, the quality of linear accelerators in terms of accuracy and precision has improved in recent years, allowing for procedures such as SRS, SBRT, and IMRT.

The purpose of this report is to build upon the recommendations of TG-40 for QA of medical linear accelerators including the before mentioned technologies (MLC, newer wedge systems, asymmetric jaws, imaging systems, and respiratory systems) and procedures such as SRS, SBRT, TBI, and IMRT. During the development of this report, investigation of technologies that deliver MLC-based IMRT with simultaneous gantry rotation had just begun, and therefore QA for these technologies is not included in the report.

The recommendations of this task group are not intended to be used as regulations. These recommendations are guidelines for QMPs to use and appropriately interpret for their individual institution and clinical setting. Each institution may have site-specific or state mandated needs and requirements which may modify their usage of these recommendations.

I.B. Background

The underlying principle behind TG-40 was the International Commission on Radiation Units and Measurements[2] (ICRU) recommendation that the dose delivered to the patient be within ±5% of the prescribed dose. Taking into consideration the many steps involved in delivering dose to a target volume in a patient, each step must be performed with accuracy better than 5% to achieve this recommendation.

The goal of a QA program for linear accelerators is to assure that the machine characteristics do not deviate significantly from their baseline values acquired at the time of acceptance and commissioning.[3] There are several publications that describe procedures and conditions for acceptance testing and commissioning, and the reader is referred to these: The International Electrotechnical Commission[4,5] (IEC), American Association of Physicists in Medicine[3,6,7] (AAPM), and American College of Medical Physics[8] (ACMP). Many of these baseline values are entered into treatment planning systems to characterize and/or model the treatment machine, and therefore can directly affect treatment plans calculated for every patient treated on that machine. Deviation from the baseline values could thus result in suboptimal treatment of patients. Machine parameters can deviate from their baseline values as a result of many reasons. There can be unexpected changes in machine performance due to machine malfunction, mechanical breakdown, physical accidents, or component failure. Major component replacement (waveguide, bending magnet, etc.) may also alter machine performance from the original parameters. In addition there can be gradual changes as a result of aging of the machine components. These patterns of failure must be considered when establishing a periodic QA program.

It is not the goal of this report to describe the experimental techniques for performing QA tests, as these tests are described in a number of publications.[9–35] We also realize the increased demands on staff in the current healthcare environ-

TABLE I. Daily.

Procedure	Machine-type tolerance		
	Non-IMRT	IMRT	SRS/SBRT
Dosimetry			
X-ray output constancy (all energies)			
Electron output constancy (weekly, except for machines with unique e-monitoring requiring daily)		3%	
Mechanical			
Laser localization	2 mm	1.5 mm	1 mm
Distance indicator (ODI) @ iso	2 mm	2 mm	2 mm
Collimator size indicator	2 mm	2 mm	1 mm
Safety			
Door interlock (beam off)		Functional	
Door closing safety		Functional	
Audiovisual monitor(s)		Functional	
Stereotactic interlocks (lockout)	NA	NA	Functional
Radiation area monitor (if used)		Functional	
Beam on indicator		Functional	

ment and recognize the fact that the tests should be simple, rapid, and reproducible. Since the publication of TG-40 there have been many QA products designed around the TG-40 table that make execution of these tests more efficient. TG-40 stated that the test procedures should be able to distinguish parameter changes smaller than tolerance or action levels. A definition of *repeatability* is included in Sec. II C.

As noted in TG-40, the QA program for linear accelerators is very much a team effort, and the responsibilities of performing various tasks are typically divided among physicists, dosimetrists, therapists, and accelerator engineers. However, we reiterate the recommendation that the overall responsibility for a linear accelerator QA program be assigned to one individual: The qualified medical physicist (QMP).

The foundation of linear accelerator based QA lies in Table II of TG-40. Since its publication linear accelerators have changed not only with respect to their physical construction but also in their role as treatment devices. Asymmetric jaws, dynamic/virtual wedges, and multileaf collimators have been added. Intensity-modulated radiation therapy and image-guided radiation therapy (IGRT) have increased demands on the accuracy required of the linear accelerator for precise dose delivery. The types of treatments delivered with the machine should also have a role in determining the QA program that is appropriate for that treatment machine. For example, machines that are used for SRS/SBRT treatments, TBI, or IMRT require different tests and/or tolerances. Some older machines may be upgraded (MLCs, portal vision) in order to perform IMRT or stereotactic radiotherapy. This will change the machine category for testing requirements. Solid compensator based IMRT is an option for some machines that are not IMRT capable. Many of the mechanical and dosimetric tests that apply to IMRT machines will therefore be applied to these machines and in most cases, specific for the particular manufacturer.

And finally, this report does give recommendations in regards to imaging devices that are connected to the accelerator and with gating as the accelerators operation can be tied to the respiratory system's signals. This was necessary as safety, mechanical, and operational attributes of imaging and gating are tied to the accelerator.

II. QUALITY ASSURANCE OF MEDICAL ACCELERATORS

II.A. General

The recommendations of this report are summarized in six tables. The first three tables, Table I (daily), Table II (monthly), and Table III (annual), essentially replace Table II of TG-40. However, as is evident, the scope of testing and the number of variables have increased compared to TG-40. Each table has specific recommendations based on the nature of the treatments delivered on the individual machine. The tables are differentiated into non-IMRT or nonstereotactic machines, IMRT machines, and IMRT/stereotactic machines. There are also explicit recommendations based on the equipment manufacturer as a result of the design characteristics of those machines. The recommendations in each table utilize the QA categories used in Table II of TG-40, dosimetry, mechanical, and safety, while adding a new category: Respiratory gating. The tests for asymmetric jaws and TBI/total skin electron therapy (TSET) are contained in Tables II and III. Three additional tables were created for dynamic/virtual/universal wedges (Table IV), MLC (Table V), and imaging (Table VI). All of these ancillary devices not covered in TG-40 are discussed in Sec. II D. Test frequencies for each test are listed in the tables and the rationale for them is dis-

TABLE II. Monthly.

Procedure	Machine-type tolerance		
	Non-IMRT	IMRT	SRS/SBRT
Dosimetry			
X-ray output constancy Electron output constancy Backup monitor chamber constancy		2%	
Typical dose rate[a] output constancy	NA	2% (@ IMRT dose rate)	2% (@ stereo dose rate, MU)
Photon beam profile constancy		1%	
Electron beam profile constancy		1%	
Electron beam energy constancy		2%/2 mm	
Mechanical			
Light/radiation field coincidence[b]		2 mm or 1% on a side	
Light/radiation field coincidence[b] (asymmetric)		1 mm or 1% on a side	
Distance check device for lasers compared with front pointer		1mm	
Gantry/collimator angle indicators (@ cardinal angles) (digital only)		1.0°	
Accessory trays (i.e., port film graticle tray)		2 mm	
Jaw position indicators (symmetric)[c]		2 mm	
Jaw position indicators (asymmetric)[d]		1 mm	
Cross-hair centering (walkout)		1 mm	
Treatment couch position indicators[e]	2 mm/1°	2 mm/1°	1 mm/0.5°
Wedge placement accuracy		2 mm	
Compensator placement accuracy[f]		1 mm	
Latching of wedges, blocking tray[g]		Functional	
Localizing lasers	±2 mm	±1 mm	< ±1 mm
Safety			
Laser guard-interlock test		Functional	
Respiratory gating			
Beam output constancy		2%	
Phase, amplitude beam control		Functional	
In-room respiratory monitoring system		Functional	
Gating interlock		Functional	

[a]Dose monitoring as a function of dose rate.
[b]Light/radiation field coincidence need only be checked monthly if light field is used for clinical setups.
[c]Tolerance is summation of total for each width or length.
[d]Asymmetric jaws should be checked at settings of 0.0 and 10.0.
[e]Lateral, longitudinal, and rotational.
[f]Compensator based IMRT (solid compensators) require a quantitative value for tray position (wedge or blocking tray slot) set at a maximum deviation of 1.0 mm from the center of the compensator tray mount and the cross hairs.
[g]Check at collimator/gantry angle combination that places the latch toward the floor.

cussed in Sec. II C. This task group (TG) considers that all of the tests included in the tables are important for ensuring the equipment to be suitable for high quality and safe radiation treatments. For example, in reference to physical wedge placement accuracy, Table II notes a monthly placement test with an accuracy of 2 mm. Deviations greater than 2 mm could result in errors as much as 2% at clinically relevant depths.

A *consistent beam profile* is an important quantity for accurate and reproducible dose delivery in radiotherapy. *Beam uniformity* was addressed in TG-40 Table II with flatness constancy, i.e., consistent flatness and symmetry tolerance levels. Constancy is specifically associated with flatness; however, symmetry tolerance can be interpreted as either absolute, regardless of reflection reference, or as constant values, taking into account the reflection reference, i.e., left to right or right to left. We believe this needs further interpretation in order to detect excessive changes in relative symmetry via sign change that would still fall within the tolerance of absolute symmetry value. For example, a cross-plane right/left symmetry drift from +3% to −3% is within the tolerance of TG-40 Table II but constitutes a beam shape change of 6%. Therefore, the monthly and annual tolerance values have been edited to take this into account and still

TABLE III. Annual.

Procedure	Machine-type tolerance		
	Non-IMRT	IMRT	SRS/SBRT
Dosimetry			
X-ray flatness change from baseline		1%	
X-ray symmetry change from baseline		±1%	
Electron flatness change from baseline		1%	
Electron symmetry change from baseline		±1%	
SRS arc rotation mode (range: 0.5–10 MU/deg)	NA	NA	Monitor units set vs delivered: 1.0 MU or 2% (whichever is greater) Gantry arc set vs delivered: 1.0° or 2% (whichever is greater)
X-ray/electron output calibration (TG-51)		±1% (absolute)	
Spot check of field size dependent output factors for x ray (two or more FSs)		2% for field size $<4\times4$ cm^2, 1% $\geq4\times4$ cm^2	
Output factors for electron applicators (spot check of one applicator/energy)		±2% from baseline	
X-ray beam quality (PDD_{10} or TMR_{10}^{20})		±1% from baseline	
Electron beam quality (R_{50})		±1 mm	
Physical wedge transmission factor constancy		±2%	
X-ray monitor unit linearity (output constancy)	±2% ≥5 MU	±5% (2–4 MU), ±2% ≥5 MU	±5% (2–4 MU), ±2% ≥5 MU
Electron monitor unit linearity (output constancy)		±2% ≥5 MU	
X-ray output constancy vs dose rate		±2% from baseline	
X-ray output constancy vs gantry angle		±1% from baseline	
Electron output constancy vs gantry angle		±1% from baseline	
Electron and x-ray off-axis factor constancy vs gantry angle		±1% from baseline	
Arc mode (expected MU, degrees)		±1% from baseline	
TBI/TSET mode		Functional	
PDD or TMR and OAF constancy		1% (TBI) or 1 mm PDD shift (TSET) from baseline	
TBI/TSET output calibration		2% from baseline	
TBI/TSET accessories		2% from baseline	
Mechanical			
Collimator rotation isocenter		±1 mm from baseline	
Gantry rotation isocenter		±1 mm from baseline	
Couch rotation isocenter		±1 mm from baseline	
Electron applicator interlocks		Functional	
Coincidence of radiation and mechanical isocenter	±2 mm from baseline	±2 mm from baseline	±1 mm from baseline
Table top sag		2 mm from baseline	
Table angle		1°	
Table travel maximum range movement in all directions		±2 mm	
Stereotactic accessories, lockouts, etc.	NA	NA	Functional
Safety			
Follow manufacturer's test procedures		Functional	
Respiratory gating			
Beam energy constancy		2%	
Temporal accuracy of phase/amplitude gate on		100 ms of expected	
Calibration of surrogate for respiratory phase/amplitude		100 ms of expected	
Interlock testing		Functional	

TABLE IV. Dynamic/universal/virtual wedges.

Dynamic-including EDW (Varian), virtual (Siemens), universal (Elekta) wedge quality assurance				
		Tolerance		
Frequency	Procedure	Dynamic	Universal	Virtual
Daily	Morning check-out run for one angle		Functional	
Monthly	Wedge factor for all energies	C.A. axis 45° or 60° WF (within 2%)[a]	C.A. axis 45° or 60° WF (within 2%)[a]	5% from unity, otherwise 2%
Annual	Check of wedge angle for 60°, full field and spot check for intermediate angle, field size	Check of off-center ratios @ 80% field width @ 10 cm to be within 2%		

[a]Recommendation to check 45° if angles other than 60° are used.

maintain the TG-40 intent. The tolerance values are also stated such that new developments in treating beams without flattening filters are considered.

In our updated tolerance table, the monthly tolerance values are specific to a consistent beam shape, where baseline off-axis factors (OAFs) were measured with a QA device immediately following beam commissioning or updated by the annual review. Ongoing QA measurements are compared to the baseline off-axis factors. Chosen point locations that fall within the core of the field [as an example four points off axis in multiple directions within 80% of an agreed upon field size (FS)] should have an average of their absolute values within the tolerance value in Table II. This is expressed as

$$\frac{1}{N}\cdot\sum_{L=1}^{N}\left|\frac{\mathrm{TP}_L-\mathrm{BP}_L}{\mathrm{BP}_L}\right|\cdot 100\% \leq \text{tolerance}\%,$$

where TP_L and BP_L are off-axis ratios at test and baseline points, respectively, at off-axis point L, N is the number of off-axis points, and $\mathrm{TP}_L=(\mathrm{MP}_L/\mathrm{MP}_C)$ where M represents the measurement value and C is the central axis measurement. Similarly, the baseline points are represented by $\mathrm{BP}_L=(\mathrm{MBP}_L/\mathrm{MBP}_C)$

The annual table in TG-40 included a 2% tolerance for "off-axis factor constancy," with recommended testing at various gantry angles, but there was no mention of flatness or symmetry. We have added this as a profile comparison to baseline commissioning data in a large field size; this increases the sensitivity to detect beam shape changes that result from a beam energy change or target change that may be due to long term aging effects. The recommended field size is 30×30 cm^2 or greater for conventional x rays; the largest field size for special x-ray applications if $<30\times30$ cm^2 and the largest applicator for electrons. The flatness and symmetry values in the center 80% FS of the measured profile, as defined during machine commissioning, should not deviate from the baseline by more than the tolerance values in Table III. We believe that this test expansion is justified since the

TABLE V. Multileaf collimation (with differentiation of IMRT vs non-IMRT machines).

Procedure	Tolerance
Weekly (IMRT machines)	
Qualitative test (i.e., matched segments, aka "picket fence")	Visual inspection for discernable deviations such as an increase in interleaf transmission
Monthly	
Setting vs radiation field for two patterns (non-IMRT)	2 mm
Backup diaphragm settings (Elekta only)	2 mm
Travel speed (IMRT)	Loss of leaf speed >0.5 cm/s
Leaf position accuracy (IMRT)	1 mm for leaf positions of an IMRT field for four cardinal gantry angles. (*Picket fence* test may be used, test depends on clinical planning-segment size)
Annually	
MLC transmission (average of leaf and interleaf transmission), all energies	±0.5% from baseline
Leaf position repeatability	±1.0 mm
MLC spoke shot	≤1.0 mm radius
Coincidence of light field and x-ray field (all energies)	±2.0 mm
Segmental IMRT (step and shoot) test	<0.35 cm max. error RMS, 95% of error counts <0.35 cm
Moving window IMRT (four cardinal gantry angles)	<0.35 cm max. error RMS, 95% of error counts <0.35 cm

TABLE VI. Imaging.

Procedure	Application-type tolerance: non-SRS/SBRT	Application-type tolerance: SRS/SBRT
Daily[a]		
Planar kV and MV (EPID) imaging		
Collision interlocks	Functional	Functional
Positioning/repositioning	≤2 mm	≤1 mm
Imaging and treatment coordinate coincidence (single gantry angle)	≤2 mm	≤1 mm
Cone-beam CT (kV and MV)		
Collision interlocks	Functional	Functional
Imaging and treatment coordinate coincidence	≤2 mm	≤1 mm
Positioning/repositioning	≤1 mm	≤1 mm
Monthly		
Planar MV imaging (EPID)		
Imaging and treatment coordinate coincidence (four cardinal angles)	≤2 mm	≤1 mm
Scaling[b]	≤2 mm	≤2 mm
Spatial resolution	Baseline[c]	Baseline
Contrast	Baseline	Baseline
Uniformity and noise	Baseline	Baseline
Planar kV imaging[d]		
Imaging and treatment coordinate coincidence (four cardinal angles)	≤2 mm	≤1 mm
Scaling	≤2 mm	≤1 mm
Spatial resolution	Baseline	Baseline
Contrast	Baseline	Baseline
Uniformity and noise	Baseline	Baseline
Cone-beam CT (kV and MV)		
Geometric distortion	≤2 mm	≤1 mm
Spatial resolution	Baseline	Baseline
Contrast	Baseline	Baseline
HU constancy	Baseline	Baseline
Uniformity and noise	Baseline	Baseline
Annual (A)		
Planar MV imaging (EPID)		
Full range of travel SDD	±5 mm	±5 mm
Imaging dose[e]	Baseline	Baseline
Planar kV imaging		
Beam quality/energy	Baseline	Baseline
Imaging dose	Baseline	Baseline
Cone-beam CT (kV and MV)		
Imaging dose	Baseline	Baseline

[a]Or at a minimum when devices are to be used during treatment day.
[b]Scaling measured at SSD typically used for imaging.
[c]Baseline means that the measured data are consistent with or better than ATP data.
[d]kV imaging refers to both 2D fluoroscopic and radiographic imaging.
[e]Imaging dose to be reported as effective dose for measured doses per TG 75[36].

annual test is more comprehensive, intended to uncover changes that may have remained undetected during more frequent but less rigorous testing throughout the year. Note that the tolerance value is not absolute in that it should not be interpreted as a comparison to the machine specification; instead it is a tolerance value from the baseline. The expansion of tests is also justifiable due to the fact that since TG-40 and post-IMRT, the selection of available QA tools makes annual testing less burdensome; these tools range from 3D water scanning tanks to large area detector arrays. The proper tools should be chosen by matching the detectors and software to the needs and sensitivity requirements.

II.B. Test frequencies

As with TG-40, testing is distributed among daily, monthly, and annual QA frequencies. The underlying principles for test frequency follow those of TG-40 and attempt to balance cost and effort with accuracy. In this report there are additional factors that affect the frequency of the tests, specifically the type of treatments delivered on the machine and the inherent design of the machine. For example, some linacs are designed with independent photon and electron monitor chamber systems (e.g., Siemens). It is recommended that each independent monitor chamber system should be checked daily.

The daily (or in some cases weekly) tests include parameters that can affect dose to the patient by dosimetric (output constancy) or geometric (lasers, optical distance indicator, field size) means. The daily safety tests still include audiovisual monitoring of the patient and testing of the door interlock. With respect to EPID and kV imaging, the operation and functionality are tested daily, as well as collision interlocks. The daily tests are typically performed by the morning warm-up therapist, who should be trained by a qualified medical physicist with a well defined policy and procedure to follow if any of the tests are found to be out of tolerance. Monthly tests include those that have a lower likelihood of changing over a month (e.g., tray position or profile consistency—which also serves as an energy check for photons). Monthly tests for respiratory gating have been added as well as more quantitative tests for EPIDs and kV imaging. These tests are typically more involved and are generally performed by the QMP. The annual tests are a subset of the tests performed during acceptance testing and commissioning procedures. During the annual review of dosimetry systems, constancy factors are either established, reconfirmed, or updated.

Several authors have attempted to develop a systematic approach to developing QA frequencies and action levels.[37–39] More recently the work being performed by Task Group 100[40] of the AAPM. TG 100—A method for evaluating QA needs in radiation therapy [based on "Failure modes and effects analysis (FMEA)"]—promotes individual departments to be responsible for development of unique QA programs based on procedures and resources performed at individual institutions. Institutional deviations from some of these recommendations are expected based upon the institution's policy and procedures; the clinical significance of these deviations may be mitigated by other control methods that are not anticipated in this document. In the case of decreasing the frequency of a particular test, the results of the test must be examined and be validated with an appreciable history of that test and based on sound statistical principles. That decision must also be correlated with the documented analysis of the potential impact of catastrophic results in the event of an occurrence. By FMEA analysis, an institution can estimate the degree of harm due to a failure along with (lack of) detection and occurrence probabilities. We reiterate the recommendations of TG-40[1] that the QA program should be flexible enough to take into account quality, costs, equipment condition, available test equipment, and institutional needs. However, we do recommend using the tests and frequencies outlined in the tables that follow until methods such as TG-100 supersede this report.

II.C. Guidelines for tolerance values

The original tolerance values in TG-40 were adapted from AAPM Report 13. Report 13 used the method of quadratic summation to set tolerance values for individual machine parameters. These values were intended to make it possible to achieve an overall dosimetric uncertainty of ±5% and an overall spatial uncertainty of ±5 mm. These tolerances are further refined in this report and those quoted in the tables are specific to the type of treatments delivered with the treatment unit. For example, the coincidence of collimator, gantry, and couch axes with the isocenter is recommended to be within 1 mm for a stereotactic machine and within 2 mm for other machines.

To clarify the relationship of tolerance values with variations from dosimetric baseline values or deviations from absolute mechanical values established during acceptance testing, we provide the following definitions.

II.C.1. Acceptance testing procedure standards

During the process of acceptance of equipment the supplier demonstrates its performance to the satisfaction of the customer against specifications, which should be part of the agreed contract. The dosimetric and mechanical measurements should satisfy the agreed upon specification values. Acceptance testing and commissioning set the *baseline* for future dosimetric measurements for beam performance *constancy* and verifies that the equipment is mechanically functional and operates within certain tolerances from absolute specified values.

II.C.2. Commissioning baseline values

Upon acceptance of the equipment, treatment beam characteristics needed for clinical use are established by the commissioning process. Often some of the beam characteristics may have been already acquired during the acceptance testing procedures. These beam characteristics establish the baseline values to be checked relative to constancy during future dosimetric quality assurance measurements.

II.C.3. Tolerances and action levels

The spirit and intent of TG 40 are maintained and further clarified; the tolerances listed in the tables should be interpreted to mean that if either a baseline parameter measured during AT exceeds the tabulated value or the change in the baseline parameter exceeds the tabulated value, then an action is required. Therefore, if ongoing QA measurements fall outside the tolerance levels (allowed deviation) in the tables, the equipment should be adjusted to bring the measured values back into compliance: the tolerances are action levels [a hierarchy of steps taken by the medical physicist (MP) and QA staff]. However, if certain baseline parameters barely satisfy the tolerance value repeatedly, an appropriate action should be taken to correct the equipment. These actions should be set by the MP in terms of the level of action (inspection, scheduled, or immediate stoppage) to be taken and under what circumstances. The actions should be well known by all personnel involved in the QA process.

It is not our intention to make prescriptive recommendations on the type of action but rather provide guidance as to the types of actions that are needed in the QA process. We believe there are three types of actions, with an action priority ranking from lowest to highest, as follows.

- Level 1: Inspection action. From repeated QA procedures, there are measurement values that become expected under normal operating conditions. A sudden and significant deviation from the expected value should be called to the attention of the MP, even if the measurement itself does not exceed the table tolerance value. Some measured values may be affected due to intervention outside of the normal linac operation or measurement. For example, a change in personnel, setup, or maintenance event may cause a measurement shift. The change may also be indicative of a machine problem that is not yet out of tolerance QA but a change nonetheless. Treatments should continue, but the cause should be investigated during routine QA.
- Level 2: Scheduled action. We present two examples which could require scheduled action. First, consecutive results of a QA procedure that are at or near the tolerance value should cause investigation or scheduled maintenance into the problem within one to two working days. Second, a single result that exceeds the tolerance value, but not excessively, should cause investigation or scheduled maintenance. Under these conditions, deviations may slightly exceed the tolerance, but the clinical impact over the course of a few days (<1 week) may not be significant. Treatment may continue, but mitigation of the cause should be scheduled to take place within one to two working days.
- Level 3: Immediate action or stop treatment action or corrective action. A measurement result could require an immediate suspension of the treatment function related to the dosimetric parameter measured. Examples for complete suspended use of the linear accelerator could be as simple as nonfunctional safety interlocks or as extreme as an excessive error in a dosimetry parameter. Specified treatment functions should not continue until the problem is corrected.

With these three action levels, there is an institutional need to specify the deviations from baseline values and tolerances associated with levels 2 and 3. This should be carried out by the QA committee as discussed in the TG-40 report (Sec. B.I.C). The level 1 parameters' thresholds cannot be specified by the committee; these thresholds evolve from the QA data. The level 1 threshold is not a critical requirement but it can lead to significant improvements in the QA program. The report from TG-100 is expected to address some of these issues.

II.C.4. Uncertainties, repeatability, and precision

The TG-40 report[1] stated that test procedures should be capable of distinguishing parameter changes that are smaller than tolerance or action levels. Here we attempt to further clarify this requirement and offer some examples. There is an associated measurement uncertainty that depends upon the technique used, the measuring device, and the person using the device and recording the measurement.

- Measurement uncertainty (or accuracy) is in reference to an expected error of the measurement result with respect to a defined standard (baseline value).
- Measurement repeatability is in reference to the device's measurement statistics, i.e., with no change in the quantity being measured and no change in the measurement setup, the recorded values from repeated measurements will have a standard deviation about the mean.
- Measurement precision is in reference to the measuring device's scale resolution of the display.

For example, a dosimetry chamber/electrometer may have a measurement precision of 0.01% on a full scale four digit display, measurement repeatability with a deviation of the mean of 0.05% after ten repeated measurements, and a measurement uncertainty of 1.5% absolute dose. Many of the tolerance values in the tables are with respect to baseline values from the QA measuring device, measured at the time of commissioning. The measurement repeatability of the device and technique must be less than the tolerance level for the parameter being measured. We recommend that the measurement system and procedure repeatability be such that two standard deviations for three or more repeated consecutive measurements are less than the tolerance value.

The tolerance values in the tables have an interdependence with test frequency. Devices used for daily QA output constancy may provide data for tests normally performed on a monthly basis. However, the monthly tests are expected to be performed at a higher level of skill and with a higher level of test equipment and therefore those measurements carry a tighter tolerance value. Therefore, when a procedure is performed on a more frequent schedule than required, the QA committee may include the more frequent measurements with a different tolerance value as listed in this report's tables. This will become apparent when establishing the level

l action level. However, the tolerance values in this report should be rigorously maintained for the specified procedure frequency.

II.D. Ancillary treatment devices not in TG-40

The AAPM TG-40 report made it clear that new devices coming on-line during this time period (1994) would be beyond the scope of the report. The TG-40 report did not address asymmetric jaws, dynamic/virtual wedging, or multileaf collimation. However, task groups addressing each of these new technologies never formed, or the final reports were written after TG-40 was published, for example, the multileaf collimation TG-50[41] report. Klein *et al.*[15] published a manuscript on a QA program for ancillary high technology devices on a dual-energy linear accelerator that included asymmetric jaws, dynamic and virtual wedges, multileaf collimation, and electronic portal imaging. This paper was based on one institution's equipment and process for QA. In addition, the technologies themselves have manifested into more modern and complicated devices, especially the use of multileaf collimation for IMRT.

This section addresses these ancillary devices/options in terms of QA processes required to support them. We have incorporated asymmetric jaws within the revised Table II (TG-40) recommendations, while separate tables have been created for MLC and dynamic/virtual wedges. This task group makes specific recommendations for asymmetric jaws, jaw based wedge delivery systems, and multileaf collimation that are both vendor specific and operation specific. This was necessary due to the differences among the systems. The following sections outline these specific recommendations.

II.D.1. Asymmetric Jaws

Slessinger *et al.*[42] published one of the earliest papers on implementation of asymmetric jaws including calculation schemes and QA. For asymmetric jaws, there should be additional scrutiny for beam matching and the accuracy of dynamic/virtual wedge delivery which depends strongly on jaw positioning accuracy. For example, Klein *et al.*[43] published a paper using a single isocentric technique relying on asymmetric jaws with beam matching at the isocentric plane for breast irradiation. To address this, the recommendation was to perform monthly light-radiation coincidence and asymmetric jaw positional accuracy for each jaw used clinically at 0.0 cm (for beam matching) and also at 10.0 cm (retracted from central axis). The testing of the jaws positioned at 0.0 can be performed with a single film to demonstrate nondivergent field matching.

II.D.2. Dynamic/virtual/universal wedge

Before IMRT, modulation of the beam during treatment was accomplished by computer controlled movement of the collimating jaw while the beam was on using computer control.[44] These technologies, dynamic (later enhanced dynamic wedge) and virtual wedges, were clinically introduced by Varian and Siemens, respectively. Jaw accuracy for the dynamic wedge-type delivery published by Klein *et al.*[45] showed that very small changes in jaw position could affect the dynamic wedge factor. The dynamic wedge reports (Klein,[15] Liu,[46,47] and Beavis[48]) all pointed to individual institution recommendations for dynamic jaw delivery to deliver a wedge field. Zhu *et al.*[49] published similar recommendations for virtual wedge. As these technologies rely on computer delivery of jaw position in a given instant or percentage of monitor units (MUs), there should be scrutiny of the embedded tables that map the location of jaw position in relationship to time (fraction of MU to be delivered). In this report, we include the Elekta universal wedge within this category (described by Phillips *et al.*[50]), as computer control moves the fixed internal 60° wedge in place to yield an effective wedge angle when combined with an open field. The recommendations in Table IV include some simple daily systematic tests, operational tests of the computer control on a monthly basis, and annual dosimetric tests. We recommend that tests be performed with a 45° wedge delivery for systems that deliver an "effective" wedge angle by using a combination of 60° and open beam. If, however, a facility opts to deliver a 60° wedge as a unique field, then the 60° wedge angle should be checked.

II.D.3. MLC

Early implementations of multileaf collimation[51–53] were limited to tests and tolerance recommendations for early Varian MLC machines. Soon afterward, Jordan and Williams[54] published a paper for Elekta machines and Das *et al.*[55] for Siemens machines. Mubata *et al.*[21] published a paper dedicated to QA for Varian machines following these initial papers. In 1998, the AAPM formed a task group (AAPM TG-50[41]) to address multileaf collimation, including extensive sections on multileaf collimator QA. This publication recommended a scope limited QA program. Although the task group report was published during initial IMRT implementations using multileaf collimation, it did not make recommendations specific for MLCs as used for IMRT. Subsequent publications,[9,30,56–61] particularly those by Cosgrove *et al.*[62] and Chang *et al.*,[63] pointed to tests for MLC QA along with tools for such tests. We have subsequently recommended testing (Table V) that depends on whether or not the MLC system is used for IMRT. With regards to the impact of MLC on IMRT, publications have documented the impact of leaf positioning accuracy and interleaf or abutted leaf transmission on the accuracy of delivered IMRT fields.[64–66] Therefore additional tests of multileaf collimators that are used for IMRT are recommended. Some of the leaf parameters that affect dose delivery for IMRT include leaf positional accuracy and transmission values. Simple tests, such as the picket fence test described by LoSasso,[66] can assess positional accuracy qualitatively (by the matching of sequential segments and leaf transmission, particularly interleaf). We recommend the picket fence test be performed weekly with a careful examination of the image acquired by static film or on-line portal image. On a monthly basis, we recommend expansion of the leaf position accuracy test to account

for gantry rotation which may affect leaf motion due to gravitational effects imposed on the leaf carriage system. Loss of travel speed can result in increased beam holds or gap width errors.[66] MLC travel speed is evaluated with vendor software or by MLC log file evaluation. As an example, Varian offers a tool for such analysis.[67,68] The software takes data and creates a series of tables and plots, specifically an error histogram showing all the leaf position deviations, error RMS showing the calculated root mean square error for leaf deviations, and beam hold off and beam on plots. As per manufacturer specifications, the error histogram is deemed acceptable if 95% of the leaf deviations are less than 0.35 cm and the maximum error RMS for either carriage is less than 0.35 cm. We have incorporated use of this analysis in Table V for multileaf collimation for Varian MLCs and recommend repeating the customer acceptance test procedures on an annual basis. Similar types of analysis software can be developed for other systems if the leaf and time dependent data can be extracted.

On an annual basis we recommend enhancing the transmission test to include quantitative analysis of the leaf transmission. Recent development of tools utilizing EPID devices allow for subpixel precision to detect changes in discrete locations of an acquired image.[69,70] As treatment planning parametrization seeks a global value for leaf transmission, it is important that the leaf body, side, and end characteristics do not change over time, the most vulnerable being the leaf side rigidity due to leaf interdigitation, as it may affect interleaf leakage, hence the close attention needed. Leaf position repeatability, MLC spoke shot, and coincidence of light field and x-ray field all are tests intended to check the alignment of the MLCs. Vendor-specific tests are also recommended depending on the model of MLC used. Each vendor has unique preventative maintenance program recommendations and therefore replacement of MLC motors and leaves may vary in frequency. Therefore physicists must be aware of the replacement schedule as post-testing is required. All tests should reflect the types of treatments delivered in the department. The method of testing (film, solid state detectors, software, EPID) shall be sensitive enough to detect errors less than the tolerance level and have the ability to analyze all MLC leaves.

II.D.4. TBI/TSET

For either TBI or TSET QA tests chosen by a qualified medical physicist are a subset of the commissioning data sufficient to assure continued proper operation of the accelerator. QA tests should replicate test conditions performed during the commissioning of the technique. *In vivo* patient-specific dosimetry should be considered for both TBI and TSET.

TBI requires very large treatment fields to encompass the entirety of the patient. Some health care facilities have treatment units specifically designed for total body irradiation, but it is more common for conventional radiotherapy linear accelerators to be used. AAPM Report 17 [71] is a general reference describing TBI techniques. Report 17 describes phantom and patient dosimetry considerations for TBI. It is common for the linear accelerator to operate in a special dose rate mode for TBI treatment. The treatment distance is normally much greater than the standard 100 cm source-to-axis distance (SAD). TBI beam modifiers may be employed. Thus, measurements at extended distance with the accelerator in the TBI mode and with TBI modifiers must be made when this modality is commissioned. Table III recommends annual tests of TBI modifiers' transmission constancy if used, tissue-phantom ratio (TPR), OAF constancy, and measurement of output constancy (±2%) in the TBI mode for the clinical MU range at clinical dose rates (MU/min). Measurement at two depths is sufficient for confirmation of beam energy, and a limited number of off-axis measurements suffice for confirmation of OAFs. Some accelerators operate in a special TBI mode that has identical operating parameters as the normal non-TBI mode. In this case, annual measurements of the beam energy [percentage-depth dose (PDD) or TMR] and beam profile (OAF) at the isocenter are sufficient.

TSET is a specialized electron beam technique normally at energies from 3 to 7 MeV at the patient. TSET is described in detail in an AAPM Task Group Report.[72] This report describes irradiation techniques for TSET as well as dosimetric considerations specific to the technique. The linear accelerator operating parameters, such as dose rate, collimating device, and perhaps the beam scatterer, differ for TSET from standard electron beam operating parameters. QA tests should replicate test conditions done during the commissioning of the technique. Table III recommends annual tests of TSET modifiers' transmission constancy if used, PDD or other energy check, OAF constancy, and measurement of output constancy in the TSET mode for the clinical MU range. Measurement at two depths is sufficient for confirmation of beam energy, and a limited number of off-axis measurements suffice for confirmation of OAFs.

II.D.5. Radiographic Imaging

This section covers radiographic imaging systems commonly integrated with medical accelerators: Megavoltage (MV) planar imaging, kV planar imaging, and MV or kV computed tomographic imaging (both serial and cone beam). Table VI contains QA recommendations for the imaging systems. Each radiographic imaging device, either 2D or 3D, has its own geometric coordinate system, similar to the delivery system. Even for the 2D portal imaging device which uses the treatment beam as the imaging source, the manual methods or software used to manipulate images could cause some discrepancies with treatment coordinates. Typically, the imaging coordinate system is correlated with the delivery coordinate system through a calibration process. It is, therefore, critical to ensure the coincidence of these two coordinate systems for different clinical needs of image-guided radiation therapy procedures. The QA item "imaging and treatment coordinate coincidence" is aimed to test this coincidence and is applicable for each of the imaging systems considered. In addition, each system performing patient positioning and/or repositioning based on in-room imaging sys-

tems, either 2D or 3D, relies upon vendor software that compares and registers on-board images and reference images. Quality assurance of this process could be easily done by a phantom study[73] with known shifts and is recommended for each system used clinically. The accuracy of this process should be tested on the daily basis, especially for SRS/SBRT.

Clinical use of kV imaging devices is being systematically summarized in TG104,[73] although there are no specific recommendations for the QA tolerances in that report. In this report, we set basic recommendations for the use of in-room kV imaging systems. The fundamental goals for kV imaging in radiation oncology target localization are different from those in diagnostic imaging. In radiation oncology there is greater emphasis on the localization accuracy. However, the localization accuracy is dependent on the visibility of the anatomic structures to be localized. Better image quality typically leads to better visibility of anatomical structures but is also proportional to higher imaging dose. It is understandable that the localization accuracy of some treatment sites (such as breast portals) may be less sensitive to image quality than others (such as head and neck). Therefore, it is critical to carefully balance the desire of image quality and imaging dose without compromising the localization accuracy. A variety of kV imaging systems was recently introduced. Applications of these kV imaging systems include 2D radiographic imaging, 2D fluoroscopic imaging, and 3D tomographic imaging as well as 4D imaging associated with organ motions. Acceptance testing criteria for each imaging system should be established between the manufacturer and the user. These acceptance testing criteria should include parameters related to safety, image quality, imaging dose, and localization accuracy. The baseline data (including both means and ranges or measured values and their upper and lower limits) established during the acceptance testing should be used for the QA criteria.

II.D.5.a. Planar MV imaging (portal imagers). Clinical use of electronic portal imaging devices has been addressed by TG58[74] and is described widely in the literature.[17,75–77] Recommended QA tests from the TG-58 report are incorporated in Table VI, though updated to account for on-board-imaging tests. However, details of the test contents, such as the dose rate to be checked for imaging quality, the energy, and the calibration distances, should be determined specifically for each type of EPID and for each individual institution. It is important to note that image quality checks (contrast, resolution, and noise) should be done for all calibration modes and energies to be used for imaging.

II.D.5.b. Planar kV imaging. The basic QA for planar kV imaging system mainly handles 2D x-ray imaging, either with radiographic imaging (single shot of a planar image) or continuous fluoroscopic imaging. Radiographic 2D imaging is very powerful in localizing bone structures and internal/implanted markers with higher density. It is also fast with negligible imaging dose. Fluoroscopic imaging is useful in monitoring organ motion but caution should be paid for imaging dose. The baseline data from acceptance testing are recommended as criteria for imaging quality QA. The user should maintain the image quality not poorer than those data. The criteria for the SRS/SBRT should be based on rigid-body phantom tests.

II.D.5.c. Serial and cone-beam CT. Basic recommendations for the QA of axial and CBCT systems, including both kV[78] and MV,[79] are found in Table VI. These tools are primarily used for target localization, which provides excellent soft tissue and volumetric information. In this report, serial CT should include both axial and helical CT and mainly refers to the CT-on-rail system. The positioning and repositioning accuracy should include couch movement from the treatment position to the imaging position. The QA for tomotherapy which uses helical serial MV CT, will be discussed in a separate AAPM report (TG-148). Although spatial accuracy of image reconstruction is paramount and most heavily emphasized, image quality parameters (e.g., contrast, noise, uniformity, and spatial resolution) are important aspects that should also be considered. Additionally, manufacturer's recommendations for imaging systems recalibration procedures should be followed unless the user has shown in extensive studies that the procedure frequency can be reduced. Since such imaging systems are often used daily and are capable of delivering significant radiation dose, a direct measure of imaging dose and beam quality/energy is recommended at least annually. As with the recommendations for kV imaging, the baseline data (including both means and ranges or measured values and their upper and lower limits) established during the acceptance testing should be used for QA criteria. Consistent with recommendations of TG-75[36] ("Management of imaging dose during IGRT"), the tolerance for variation of imaging dose and beam energy from baseline measurements identified during acceptance testing should be established such that the patient experiences clinically insignificant increases in stochastic and deterministic risk while maintaining image quality parameters. We believe that an annual review of imaging dose is sufficient due to minimal impact on overall dose and by virtue of existing daily/monthly reviews of many parameters that would detect changes that could potentially affect dose. For the Siemens MV CBCT the beam calibration parameters are typically very similar to the treatment beam, yet they are unique and independent, so the calibration of dose should be specifically checked for the MV CBCT beam. The frequency of measuring dose and beam quality/energy depends on the likely system stability and details of clinical utilization; for example, if the imaging dose is included in the treatment plan but represents $<10\%$ of the prescribed dose, a 20% variation in imaging dose will still only result in a 2% dose error. This report recommends annual assessment of imaging dose, which may be deemed to be required more frequently by the individual user based on clinical utilization and observed system stability.

II.D.6. Respiratory gating

Respiratory gating, at the time of the report, is an emerging technology. As such, QA methods will need to evolve in tandem with the technology. AAPM Report 91[80] (TG-76),

published in 2006, described all aspects of the management of respiratory motion in radiation oncology, including imaging, treatment planning, and radiation delivery. Various configurations and techniques for implementation of respiratory gating are described in TG-76. The TG-76 report also contains technology-specific QA recommendations. Though there are different avenues of implementation, all respiratory techniques fundamentally require a synchronization of the radiation beam with the patient's respiratory cycle. Characterization of the accelerator beam under respiratory gating conditions is done during commissioning of this modality. Dynamic phantoms which simulate human organ motions associated with respiration are recommended to test target localization and respiratory gated treatment accuracy. Tables II and III include tests for respiratory gated accelerator operation, including measurement of beam energy constancy, beam output constancy, temporal accuracy of phase/amplitude gating windows used, calibration of surrogate for respiratory phase/amplitude (detailed below), and interlock testing. One approach to performing these measurements was described by Bayouth *et al.*,[81] where gating windows from 250 to 1500 ms were considered. Beam energy and output constancy were quantified with a pair of ion chambers (10 and 20 cm depths) measuring simultaneously for each gated period; it was found that all dosimetric parameters were within $\pm 2\%$ for gating windows ≥ 500 ms on a Siemens accelerator. The relationship between temporal accuracy and phase/amplitude gate used was established by gated treatment delivery exposing the radio-opaque target attached to motion phantom, where the geometric center of a radio-opaque target was known at each phase/amplitude relative to the beam central axis. These images were acquired on radiographic film but could also be acquired on an EPID. Table III provides tolerance values to be verified during annual QA; the 100 ms tolerance for temporal accuracy assumes the moving object travels at speeds no greater than 20 mm/s, which would result in 2 mm of positional uncertainty. The QMP should maintain a tolerance consistent with spatial uncertainty values accounted for in the treatment planning process. Site-specific and technique-specific tests should be used to supplement these general recommendations. For example, several different types of surrogates of respiratory pattern may be used clinically (e.g., optical, strain-gauge belts with pressure sensors, and spirometry); the QMP should verify the phase and amplitude indicated by the surrogate do not change significantly over time as is relevant to how they are applied clinically. Calibration of the sensor for respiratory phase/amplitude, which has not been described in the literature, consists in validating constancy between a known location/movement of the surrogate and its response. An example test for the pressure sensor is placing a series of fixed weights on the sensor and determining the gain and offset values that produce a desired amplitude (e.g., 50%). For optical systems, this can be accomplished by placing a fiducially marked block (surrogate) at a series of fixed known locations within the field of view and comparing the reported displacements to the known values. Once spatial accuracy is confirmed, phase confirmation can be established with a periodic motion phantom.

III. SUMMARY OF RECOMMENDATIONS/ IMPLEMENTATION SCHEME

The tabulated items of this report have been considerably expanded as compared with the original TG 40 report[1] and the recommended tolerances accommodate differences in the intended use of the machine functionality (non-IMRT, IMRT, and stereotactic delivery).

(1) It is recommended that a departmental QA team be formed to support all the QA activities and draft necessary policies and procedures. These policies and procedures should be readily available to all members of the departmental QA team on hard copy and online. The policy should establish the roles and responsibilities of involved QA personnel. For QA measurements, detailed instructions on equipment use, cross calibration of these devices, measurement frequency, and documentation of the results should be provided. In case of suspected malfunction of the equipment, policies and procedures should also provide alternative methods for measurement.

(2) The first step in implementing the recommendations is to establish institution-specific baseline and absolute reference values for all QA measurements. The QA team needs to meet regularly and monitor the measurement results against the established values to (1) ensure the machine performance and (2) determine any significant dose deviations from the treatment planning calculations. There are many commercially available QA devices that could be used for daily, weekly, and monthly QA. The manufactures of these devices supply descriptive procedures that guide the user in utilizing these QA devices correctly. It is recommended that such devices be checked for accuracy and consistent performance prior to use for any specific QA procedures based on the manufacturer guidelines. These devices should also be evaluated for proper use and appropriateness of the particular QA test.

(3) A QMP should lead the QA team. It should be her/his responsibility to provide adequate training of the other team members, such as the therapists and the dosimetrists, so that they clearly understand and follow policies and procedures. For example, training on the operation of the QA equipment may cover appropriate warm-up period, how to interpret the measured data, what to do when tolerance levels are exceeded, etc. It is recommended that the QMP provide the proper action level and methods of notification in the case tolerances are exceeded.

(4) In general, the daily QA tasks may be carried out by a radiation therapist using a cross-calibrated dosimetry system. For such tasks, we recommend using robust and easy-to-setup equipment. For example, a plastic phantom cube with a thimble ionization chamber insert may

be used for the checking output constancy. In most cases, the flat edge and the surface of the phantom can be also used to check the alignment of in-room lasers. Commercial flat-panel multidetector arrays with appropriate buildup material may be also used for daily QA. The advantage of such equipment is that it allows efficient check of other beam parameters such as the flatness and symmetry without repeated setup of the equipment. Due to frequent use of the daily QA equipment, correction factors influencing the detector response should be carefully documented. These may include temperature and pressure correction factors for a vented chamber, electrometer calibration factors, leakage corrections, etc. All results should be documented in either a permanent electronic or hardcopy format and should be readily available for inspection purposes. There should be clear guidelines for the personnel performing the tests as to the appropriate action to take if a test is out of tolerance. These guidelines would generally include notifying a physicist. In addition, the QMP should review and sign off on the reports at a minimum of once per month.

(5) Monthly QA tasks should be performed by a QMP or by individuals directly supervised by a QMP. It is recognized that there is overlap on some test items for daily, monthly, and annual. This overlap in frequency should have some level of independence such that the monthly check would not simply be a daily check. This can be achieved with independent measurement devices, but the full extent of monthly independence from the daily measurements is decided upon by the QMP. This involvement should include validation of devices through redundant measurements and validation of the daily process by examination of the records. For example, if a multidetector array is used for the daily output measurement and the monthly dosimetry measurements use the same multidetector array, then an ionization chamber with a phantom should be compared with the output measurement of the array on an annual basis, including reference to past baseline values. This provides confidence in the daily device and will identify trends that may otherwise go undetected over the course of a long period of time such as 1 year. Such comparison enables effective use of minimal equipment in institutions with limited resources. As for the daily QA tasks, all results should be documented in either a permanent electronic or hardcopy format and should be readily available for inspection purposes. It is important for the physicist to cross calibrate any equipment used with equivalent or surrogate systems. There should be clear guidelines for the personnel performing the tests as to the appropriate action to take if a test is out of tolerance. These guidelines would generally include secondary checks and notification to the QMP. In addition, the QMP should review and sign off on the reports within 15 days of completion.

(6) The annual QA items in the report represent the most extensive tests on the machine performance. These checks are sometimes adopted by the city or state regulatory agencies to ensure adequate functionality of the linear accelerators for patient and environmental safety concerns. For this reason, it is recommended that the annual measurements be performed by a QMP with involvement of other QA team members. It is highly recommended that QA devices and equipment, such as ionization chambers and water scanning tank, should be adequately checked prior to any measurements. The measurements should be carried out using commissioning quality equipment as recommended by the forthcoming AAPM TG-106 report.[7]

(7) An end-to-end system check is recommended to ensure the fidelity of overall system delivery whenever a new or revised procedure is introduced. This can be done by creating a set of sample treatment plans typical of the facility's clinical caseload, transferring the plan data across the data network, and delivering them at the treatment machine. If the record and verify (R&V) system is a conduit for data, it must be included in the end-to-end testing. End-to-end tests are necessary whenever software changes occur with the treatment planning software, R&V software, or delivery system software. In particular, point dose measurements should be performed for treatment plans to ensure constancy between the dose calculation and the treatment delivery process. These end-to-end tests should be documented for the life of the various system components.

(8) During the annual QA review, absolute machine output should be calibrated as per the TG51 calibration protocol[82] using an ionization chamber with a NIST traceable calibration factor. Once the machine output has been calibrated, all secondary QA dosimeters including the daily QA and the monthly QA devices should be cross-checked against such calibrations. Although our report did not make specific recommendations regarding independent acceptance tests for a new machine, we promote the use of the annual QA tests recommended by this report to be used as a general guide when reviewing vendor-specific acceptance tests and tolerance values.

Upon completion of the measurements, it is recommended that an annual QA report be generated. The report should state significant findings based on the recommended table tolerance values. The report can be similarly divided into sections that include (1) dosimetry, (2) mechanical, (3) safety, (4) imaging, and (5) special devices/procedures. The QA report should be signed and reviewed by the QMP and filed for future machine maintenance and inspection needs.

[a]TG-142 was constituted by the AAPM—Science Council—Therapy Physics Committee—Quality Assurance and Outcome Improvement Subcommittee.
[b]Electronic mail: eklein@radonc.wustl.edu

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EXHIBIT 3

SOFTWARE DISTRIBUTION AGREEMENT

(this "**Agreement**")

This Agreement made as of the 9th day of July, 2010 by and between Mobius Medical Systems, L.P., a limited partnership organized under the laws of Texas, with its principal address at 906 Hutchins, Houston, Texas 77003-3527 (hereinafter called "**Manufacturer**") and LifeLine Software Inc., a corporation organized under the laws of Texas, with an office at 311 Hines Crossing, Bullard, Texas 75757-9519 (hereinafter called "**Distributor**").

WHEREAS, Manufacturer is in the business of producing software products and wishes to commercialize the Products described in Exhibit A attached (the "**Products**"); and

WHEREAS, Distributor is in the business of distributing medical software and systems, and wishes to act as a distributor of the Products.

NOW, THEREFORE, in consideration of the premises and the mutual agreements and covenants hereinafter set forth, the parties hereto agree as follows:

1. Appointment of Distributor.

1.1 Appointment of Distributor. Manufacturer appoints Distributor, and Distributor agrees to act as an authorized distributor of Manufacturer's Products in the United States of America (defined as the "**Territory**").

1.2 Non-Exclusivity. Manufacturer reserves the right to distribute the Products directly. Manufacturer may also appoint such additional distributors within the Territory as the Manufacturer deems necessary or appropriate, upon not less than ninety (90) day advance written notice from Manufacturer to Distributor.

1.3 Products. Distributor may promote, advertise, market, offer for sale and sell the Products in the Territory. To the extent that Distributor sells or solicits the sale of any Products hereunder, it shall comply with all laws applicable to sale of the Products in the Territory.

1.4 Promotional Materials. The Manufacturer will provide the Distributor with such promotional materials as Manufacturer may deem appropriate for Distributor's use in selling the Products, at Manufacturer's sole cost and expense. Training of the Distributor by the Manufacturer in the installation and use of the Products, when appropriate, shall be conducted primarily remotely and via teleconference or video conference. Any travel expense and costs for Distributor's employees shall be borne by the Distributor. Any travel expense and costs for Manufacturer's employees shall be borne by the Manufacturer.

1.5 Ownership. Subject to the license rights set forth herein and in the End User License Agreement set forth in Exhibit B attached (the "**License Terms**"), the Manufacturer shall own all right, title, and interest in the Products, the Documentation and all intellectual property rights of any kind therein.

2. Trademarks. So long as this Agreement is in effect, and Distributor complies with all of Distributor's obligations hereunder, Distributor shall have the right to use the trade names, trademarks, brand names and other names (collectively the "**Trademarks**") identifying Products supplied by Manufacturer, subject to such trademark usage guidelines as Manufacturer may specify from time to time, if any, or in the absence thereof, as Manufacturer may otherwise approve in writing.

3. No Minimum Purchase Requirement. Distributor shall have no obligation to purchase or resell any particular quantity, volume or dollar amount of Products hereunder, and nor shall Distributor have any liability whatsoever to Manufacturer as a result of its failure for any reason to do so.

4. Relationship. This Agreement does not create a relationship of principal and agent, or otherwise constitute a joint venture partnership, association or other similar relationship between the parties or their affiliates. Both parties are acting as independent contractors. Distributor is not granted herein any right or authority to, and shall not attempt to, assume or create any obligation or responsibility for or on behalf of Manufacturer. The parties' express intention is that except as otherwise expressly provided in Sections 5.7, 5.8 and 5.9 below, Distributor be regarded for all purposes as a reseller of the Manufacturer's Products, and *not* as a sales agent or sales representative of Manufacturer.

5. Terms of Orders and Sales.

5.1 License Terms. Manufacturer shall provide Distributor with an electronic copy of the License Terms, and shall further provide Distributor with its written instructions as to the means by which the License Terms are to be presented to Licensees (*e.g.* by use of an electronic click-wrap agreement, a shrink-wrap license or through such other means as Manufacturer may prescribe). Manufacturer reserves the right to change the License Terms from time to time upon not less than ninety (90) days prior written notice to Distributor.

5.2 Resale of Products. Distributor may resell the Products at such prices as the Distributor may reasonably determine, and shall have no duty or obligation to sell the Products at the Manufacturers Suggested Retail Price.

5.3 Pricing; Wholesale Discount. The price to be paid by the Distributor to Manufacturer (the "**Wholesale Price**") for purchases of Products in Territory shall be determined in accordance with Exhibit C, and as a discount off of the Manufacturer's Suggested Retail Price for the Products as set forth in Exhibit A (the "**Suggested Retail Price**"). Distributor acknowledges that the Suggested Retail Price of the Products may be modified by Manufacturer from time to time upon not less than ninety (90) days prior written notice to Distributor, and that the amount of the Wholesale Price payable by the Distributor hereunder shall be automatically modified accordingly, upon the effective date of modification of the Suggested Retail Price. Each of the parties' hereby acknowledges and agrees that the Distributor shall *not* be obligated to sell the Products according the Suggested Retail Price, and may instead sell the Products to Licensees for such price as the Distributor may deem reasonable and appropriate in its sole discretion

5.4 Shipping. Manufacturer shall be solely responsible at its sole cost and expense for shipping all Products and related materials to any Licensees to whom Distributor resells any Products hereunder, during the term of this Agreement. Distributor shall have no duty or obligation to ship or handle any Products sold directly by Manufacturer or any of its other authorized distributors or sales agents, unless otherwise agreed by Distributor in writing.

5.5 Terms of Payment. Distributor shall and does hereby agree to pay Manufacturer the Wholesale Price for all Products purchased by Distributor hereunder, no later than thirty (30) days from the date of Distributor's receipt of payment from the Licensee for Products purchased for resale in the Territory. Invoices shall only be sent to Distributor upon or after Manufacturer's shipment of the relevant Products to the Licensee. Notwithstanding the above or anything to the contrary elsewhere in this Agreement, in no event shall Distributor have any duty or obligation to pay Manufacturer the Wholesale Price for any particular Products resold by Distributor hereunder, unless and until Distributor receives payment from the Licensee for the particular Products at issue. All such payments shall be made in United States Dollars.

5.6 Technical Support. Manufacturer will be solely responsible for providing all technical support services, including installation, training, and ongoing technical support, and the Distributor shall have no duties or responsibilities in that regard, unless otherwise agreed in writing.

5.7 Extended Product Maintenance: Year-to-Year Basis. Manufacturer shall provide Product maintenance services for one (1) year at no additional cost to the Licensee. Distributor may offer extended Product maintenance to Licensees on a year-to-year basis thereafter, as available and for an annual fee in an amount equal to (a) twenty percent (20%) of the Manufacturer's Suggested Retail Price for the underlying Product as of the date of the original invoice for the Product license, for the first additional year of any such extended Product maintenance, and an amount equal to (b) twenty percent (20%) of the Manufacturer's Suggested Retail Price for the underlying Product as of the date of the original invoice for the Product license, *plus* such additional amounts as Manufacturer may prescribe from time to time (*e.g.* adjustments for inflation), for any and all subsequent years of extended Product maintenance. Inasmuch as extended Product maintenance involves services that will be provided directly by or at the direction and control of the Manufacturer, (1) Distributor acknowledges and agrees that it is merely acting as the Manufacturer's sales agent in regard to the sale of any such annual Product maintenance, and that the price it will charge Licensees for such extended Product maintenance will be as specified above, or as otherwise authorized by Manufacturer; and (2) Manufacturer likewise agrees to pay Distributor a commission upon the occurrence of any such sale in an amount equal to twenty percent (20%) of the total amount payable by the Licensee for the extended Product maintenance, which shall be due and payable by Manufacturer to Distributor on the same terms as those set forth in Section 5.5 above.

5.8 Maintenance Renewal Package. A Maintenance Renewal Package is defined as one or more additional years, not including the first year, of Annual Product Maintenance being sold as part of the Licensee's initial order of the Product. Distributor shall offer the Maintenance Renewal package(s) more particularly described in Exhibit D to each customer who purchases a Product for an annual fee as specified in Exhibit A. The components of the Maintenance Renewal Package fees are set forth in Exhibit D. Inasmuch as the Maintenance

Renewal Package involves services that will be provided directly by or at the direction and control of the Manufacturer, (1) Distributor acknowledges and agrees that it is merely acting as the Manufacturer's sales agent in regard to the sale of any such Maintenance Renewal Packages, and that the price it will charge Licensees for Maintenance Renewal Packages will therefore be as specified in Exhibit D or as otherwise authorized by Manufacturer; and (2) Manufacturer likewise agrees to pay Distributor a commission upon the occurrence of any such sale in an amount equal to twenty percent (20%) of the total amount of the Manufacturer's Suggested Retail Price for such package, which shall be due and payable by Manufacturer to Distributor on the same terms as those set forth in Section 5.5 above.

5.9 Upgrade Package. In lieu of an active Maintenance Renewal Package, the Distributor may offer an Upgrade Package to the Licensees at the prices specified in Exhibit E attached. An Upgrade Package is defined as a purchase made by a customer who has allowed their Maintenance Contract to lapse, and entitles that former customer to download and install the most current release of a software Product, as well as a one-year term of Maintenance and Upgrades. Inasmuch as the Upgrade Package involves services that will be provided directly by or at the direction and control of the Manufacturer, (1) Distributor acknowledges and agrees that it is merely acting as the Manufacturer's sales agent in regard to the sale of any such Upgrade Packages, and that the price it will charge Licensees for Upgrade Packages will therefore be as specified in Exhibit E or as otherwise authorized by Manufacturer;; and (2) Manufacturer likewise agrees to pay Distributor a commission upon the occurrence of any such sale in an amount equal to twenty percent (20%) of the total amount of the Manufacturer's Suggested Retail Price for such package, which shall be due and payable by Manufacturer to Distributor on the same terms as those set forth in Section 5.5 above.

5.10 Trade Shows. Distributor may promote the Products at trade shows such as ASTRO and AAPM; provided, that the cost of promoting the Products at trade shows shall be borne by the Distributor.

5.11 Display and Promotional Licenses. Manufacturer shall and does hereby grant Distributor the non-exclusive, non-transferable, royalty-free right and license to (a) display the Products to prospective customers; and (b) reproduce or copy any sales promotional materials which Manufacturer may provide; in connection with Distributor's efforts to promote the sale of such Products hereunder.

6. Warranties. Manufacturer represents and warrants to Distributor that:

6.1 All Products provided by Manufacturer to Distributor and resold by Distributor in accordance with this Agreement will be free from defects in materials and workmanship under normal and proper use for a period of ninety (90) days from the date the Products are delivered to the customer.

6.2 The Products provided by Manufacturer to Distributor hereunder will not infringe upon or misappropriate any copyright, trademark, or patent, or the trade secrets of any third party in any Territory. Upon being notified of any claim to the contrary, Manufacturer shall and does hereby agree to (i) indemnify defend and hold Distributor, the Licensees and their respective officers, directors, employees, agents, and insurers harmless from and against all

liability, damages, costs and expenses, including attorneys' fees arising out of or related to any such claim, (ii) modify the Products so as to make them noninfringing, or (iii) replace the Products with functionally equivalent Products.

7. CONSEQUENTIAL DAMAGES. IN NO EVENT SHALL EITHER PARTY BE LIABLE, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST SAVINGS, LOST PROFITS OR BUSINESS INTERRUPTION, OR OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES) ARISING OUT OF OR PERTAINING TO THE SUBJECT MATTER OF THIS AGREEMENT, EVEN IF NOTIFIED IN ADVANCE OF THE POSSIBLITY OF SUCH DAMAGES.

8. Competition by Distributor. Distributor agrees that while this Agreement is in effect and for a period of six (6) months following the termination of this Agreement, Distributor shall not serve as a distributor, dealer or sales agent of, and shall not sell, license, lease or market any other products which performs IMRT, SBRT, IMAT and Linear Accelerator Quality Assurance functions.

9. Indemnification

9.1 Indemnification by Distributor. Distributor shall indemnify and hold harmless Manufacturer, its officers, directors, agents, servants, employees, affiliates, representatives, successors, and assigns from and against all losses, liabilities, costs and expenses (including, without limitation, attorneys' fees) arising out of or in connection with any breach by Distributor of any applicable laws in the performance of any of its obligations under the provisions of this Agreement.

9.2 Indemnification by Manufacturer. Manufacturer shall indemnify and hold harmless Distributor, its officers, directors, agents, servants, employees, affiliates, representatives, successors, and assigns from and against all losses, liabilities, costs and expenses (including, without limitation, attorneys' fees) arising out of or in connection with (a) any breach by Manufacturer of any of the provisions of this Agreement or any applicable Terms, and all warranty-related claims; or (b) any suit brought by a third party against Distributor or its customers to the extent that such suit is based on the claim that any Products provided by Manufacturer hereunder infringe any copyright, patent or other intellectual property right.

10. Confidential Information.

10.1 Acknowledgment of Confidentiality. Each party hereby acknowledges that it may be exposed to confidential and proprietary information belonging to or supplied by the other party or relating to its business operations and affairs including, without limitation, market intelligence, pricing, market share, revenue, discount and IP knowledge and other technical information (including any Functional Design, Technical Design, drawings, analysis, research, processes, computer programs, methods, ideas, "know how" and the like), business information (sales and marketing research, materials, plans, accounting and financial information, personnel records and the like) and other information designated as confidential expressly or by the circumstances in which it is provided ("**Confidential Information**").

Confidential Information does not include (i) information already known or independently developed by the recipient outside the scope of this project by personnel not having access to Confidential Information; (ii) information in the public domain through no wrongful act of the recipient, or (iii) information received by the recipient from a third party who was free to disclose it.

10.2 Covenant Not to Use or Disclose. With respect to each party's Confidential Information, and except as expressly authorized herein, each party hereby agrees that during the Term hereof and at all times thereafter it shall not use or disclose such Confidential Information to any person or entity, except to its own employees having a "need to know" (and who are themselves bound by similar nondisclosure restrictions), and to such other recipients as the other party may approve in writing; provided, that all such recipients shall have first executed a confidentiality agreement in a form acceptable to the owner of such information. Distributor may not: (i) alter or remove from any Product or associated documentation owned or provided by the Manufacturer any proprietary, copyright, trademark or trade secret legend, or (ii) attempt to decompile, disassemble or reverse engineer any of Manufacturer's software Products . Each party shall use at least the same degree of care in safeguarding the other party's Confidential Information as it uses in safeguarding its own Confidential Information.

11. Discontinuance of Products. Manufacturer reserves the right to discontinue the manufacture or sale of Product for any reason in its sole discretion, upon not less than one hundred eighty (180) days prior written notice to Distributor at any time during the term of this Agreement.

12. Duration of Agreement; Term. This Agreement shall become effective as of the date first above written and, unless this Agreement shall be terminated before the end of any such term as provided elsewhere in this Agreement, this Agreement shall remain in effect (a) for an initial term of two (2) years and (b) thereafter automatically for additional terms of one year each upon the termination of the initial term or any additional term.

13. Termination of Agreement.

13.1 Termination for Any Reason. Notwithstanding any other provision of this Agreement to the contrary, either party may terminate this Agreement as of the end of the initial term or any point in time thereafter by giving ninety (90) days written notice of termination to the other party.

13.2 Termination for Breach. Distributor and Manufacturer shall each have the right to terminate this Agreement upon the giving of at least fifteen (15) days prior written notice to the other party in the event of breach by the other party of any provision of the Agreement. During such fifteen (15) day period, the party asserted to be in breach shall have the opportunity to correct the alleged breach. If such alleged breach is not reasonably correctable within such fifteen (15) day period and the breaching party is proceeding diligently with its efforts to correct such alleged breach, the breaching party shall have an additional twenty (20) day period to effect such correction. If such alleged breach is not so corrected, then this Agreement shall terminate in accordance with such notice of termination.

13.3 Bankruptcy, etc. Either party upon written notice to the other party may terminate this Agreement at any time in the event the other party shall make an assignment or trust mortgage for the benefit of its creditors, or shall file a voluntary petition under the bankruptcy, reorganization, insolvency or similar laws of any jurisdiction to which it is subject, or shall suffer an involuntary petition under such laws to be filed against it, or shall be adjudicated bankrupt or insolvent, or have an order for relief in bankruptcy entered concerning it, under the laws of any jurisdiction to which it is subject.

13.4 No Indemnity for Termination or Expiration. No indemnity or other payment shall be payable to Distributor on account of goodwill, lost profits or any other factor in the event that this Agreement is terminated for any reason or expires.

13.5 Discontinuance of Use of Names. Upon and following any expiration or termination of this Agreement for any reason, Distributor shall immediately cease holding itself out as an authorized distributor for Manufacturer and shall cease soliciting the sale of, and distributing Products described herein, and using any and all Trademarks owned by or associated with Manufacturer.

14. General.

14.1 Force Majeure. Neither Manufacturer nor Distributor shall be liable for any failure or delay in delivery, in whole or in part, or for any other failure or delay in performance of any of its obligations under this Agreement (other than a failure or delay in the making of any payment required hereunder) if such failure or delay is caused by circumstances not directly under its control, including, by way of illustration but not limitation, war and war measures (whether an actual declaration thereof is made or not), sabotage, insurrection, riot or other act of civil disobedience, act of a public enemy, force majeure, flood, storm or other acts of God, acts of public authorities or courts, government orders and requirements, strikes, lockouts, fires, explosions, shortages of labor, fuel, raw materials or machinery or failures or delays of suppliers or carriers.

14.2 Construction of Agreement. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, U.S.A.

14.3 Survival of Provisions. Each of the parties acknowledges and agrees that Sections 7, 8, 9, 10, and 14 hereof and all of their respective obligations thereunder shall survive the expiration or earlier termination of this Agreement for any reason.

14.4 Prior Agreements. This Agreement and the Terms, as from time to time in effect, contain the entire agreement between the parties concerning the subject hereof and supersede all prior agreements and understandings, written or oral, between them concerning such subject matter.

14.5 Non-Waiver and Amendment. This Agreement and the warranties, representations and agreements contained herein may not be waived, modified or amended, in whole or in part, except by written agreement executed by authorized officers of the two parties, and no course of dealing or failure or delay by either party shall constitute a waiver, modification or amendment hereunder.

14.6 Assignment and Benefits. This Agreement is personal to the Distributor. Neither this Agreement nor any interest in it shall be assigned directly or indirectly by Distributor without the prior written consent of Manufacturer, which consent Manufacturer may withhold for any reason. Subject to the foregoing provisions of this Section 14.6 this Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective legal representatives, successors and permitted assigns.

14.7 Arbitration. Unless solved by mutual endeavors of the parties hereto, except as otherwise set forth in this Section 14.7 and except for claims in which a party may seek equitable relief, all differences, disputes or claims arising in connection with this Agreement or any transaction or occurrence contemplated hereby shall be finally settled in Tyler, Texas, under the Commercial Rules of the American Arbitration Association, by one or more arbitrators appointed in accordance with such Rules. Such arbitration shall be conducted in the English language. It is understood that the decision in such arbitration shall be binding on both parties and that a judgment upon any award rendered, which may include an award of damages, may be entered in any court having jurisdiction.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement as a contract under seal as of the date first above written.

MANUFACTURER:

Mobius Medical Systems, L.P.
a Texas limited partnership

By: Mobius Medical Management, LLC,
a Texas limited liability company
as its general partner

By: _____
Nathan Childress,
Managing Member

Date: 7/9/10

DISTRIBUTOR:

LifeLine Software, Inc.

By: _____
James P. Dube, President

Date: 7/9/10

Exhibit A – Manufacturer's Suggested Retail Price Schedule

Product	Manufacturer's Suggested Retail Price (USD)
DoseLab Pro – First Linac per site	$ 19,800
DoseLab Pro – Each Subsequent Linac per site	$ 9,800
On-site Configuration and Training	$ 5,900

Exhibit B– End User License Agreement

Mobius Medical Systems, Inc. Software

END USER LICENSE AGREEMENT

Mobius Medical Systems, LP

END USER LICENSE AGREEMENT

(this "Agreement")

This Agreement is made and entered into as of the date of installation (the "Effective Date"), by and between Mobius Medical Systems, LP, a Texas corporation ("MMS"), and the Institution who has purchased the software (the "Licensee").

1. License. Subject to the terms and conditions of this Agreement, MMS hereby grants to Licensee, and Licensee accepts from MMS, the nonexclusive, nontransferable, right and license to use MMS's DoseLab Pro Software (the "Software") and any accompanying documentation provided by MMS (the "Documentation"), as well as any updates, upgrades, and new releases to the same which MMS may provide to Licensee in fulfillment of its maintenance and support obligations hereunder, for Licensee's use only at the locations for analysis of measurements performed only on the radiation producing machines which are described in the applicable purchase order or other ordering document (collectively, the "Purchase Order"), and at such alternate or additional locations in the United States as MMS may authorize from time to time in writing upon Licensee's prior written request. Licensee further acknowledges and agrees that any and all licenses granted under any Purchase Orders submitted by either party to the other, will be governed by the terms and conditions set forth in this Agreement, and that terms and conditions of this Agreement will prevail in the event of any conflict between this Agreement and any Purchase Order.

2. License Fee. In consideration of the licenses granted by MMS with respect to the Software and Documentation, Licensee shall and does hereby agree to pay MMS (i) the license fees specified in the Purchase Order within thirty (30) days after its receipt of MMS's invoice, and (ii) such additional license fees as may become due and payable hereunder or under any additional Purchase Orders, or as Licensee may owe in the event Licensee otherwise uses the Software at any locations not otherwise listed in a Purchase Order, within thirty (30) days after its receipt of MMS's invoice.

3. Term. The term of this Agreement, and the licenses granted hereunder will continue in perpetuity, unless sooner terminated by a party in accordance with Section 10 below.

4. Ownership. Licensee acknowledges and agrees that:

a. The Software and Documentation is protected by copyright laws and international copyright treaties, and other intellectual property laws and treaties;

b. Title to the Software and the Documentation, and to any and all copies, modifications, or enhancements made by MMS, Licensee or any other party, shall be and remain with MMS; and

c. Except as to the rights and licenses granted to Licensee hereunder, MMS reserves all other rights to the Software and Documentation.

d. MMS acknowledges and agrees that all data supplied by Licensee and is stored in and/or manipulated by the Software shall remain the sole and exclusive property of Licensee.

5. Restrictions.

a. Copies. Except for the other restrictions expressly set forth herein, neither the Software nor the Documentation may be copied, duplicated or distributed without MMS's prior written consent; provided, however, that Licensee may make one (1) copy of the Software and Documentation to be stored off-site for backup, recovery, and archival purposes.

b. Authorized Users; Indemnity.

i) Licensee must not: (1) rent, lease, sub-license, transfer, convey or otherwise permit any third party to use the Software, (2) use the Software in the operation of a service bureau, or of the benefit of any third party other than its direct patients, or (3) allow remote access to the Software through any computers or terminals located outside the locations specified in any applicable Purchase Orders.

ii) LICENSEE COVENANTS AND AGREES THAT, IN NO EVENT WILL ANY PARTY BE ALLOWED TO USE THE SOFTWARE, OTHER THAN TECHNICIANS WHO ARE TRAINED BY MMS OR A TRAINED LICENSEE STAFF MEMBER.

iii) Licensee shall and does hereby agree to defend MMS from and against any and all third party actions, claims, demands, lawsuits, or proceedings of any kind (collectively, "Proceedings") arising from or relating to Licensee's alleged or actual breach of the covenant set forth in the preceding paragraph, and further agrees to indemnify and hold MMS harmless from and against any and all awards, costs, damages, judgments, liabilities and harm of any kind, including without limitation, reasonable attorneys' fees, suffered or incurred by MMS in connection with any such Proceedings.

c. Reverse Engineering. Licensee must not, directly or indirectly, copy, use, analyze, reverse engineer, decompile, disassemble, translate, convert, or apply any procedure or process relating to the Software in order to ascertain, derive, or appropriate for any reason or purpose, the source code or source listings for the Software or any trade secret or other proprietary information or processes embodied by or otherwise contained in the Software.

d. Nonassignment. Neither this Agreement, nor any right, license or obligation of Licensee hereunder, may be transferred, assigned, conveyed, delegated, sublicensed, moved, relocated or otherwise sold to any third party, in whole or in part, without MMS's prior written consent, and

any attempt to the contrary shall be void and of no legal effect. For purposes of this Agreement, the merger, consolidation, or other reorganization of Licensee with any third party will be considered a prohibited assignment, and will be voidable at the election of MMS.

6. Warranty.

a. Warranty; Warranty Period. MMS represents and warrants that the media upon which the Software is delivered will be free from defects in materials and workmanship for a period of thirty (30) days after shipment, and that the Software will operate in conformance with its published specifications for a period of (i) ninety (90) days from the date of Licensee's installation of the Software, or (ii) ninety (90) days from the date sixty (60) days after MMS's delivery of the Software; whichever is earlier, and that all remote installation and configuration work performed by MMS shall be performed in a professional and workmanlike manner (collectively, the ("Warranty Periods").

b. Submission of Claims; Remedies. Any warranty-related claims by Licensee must be submitted in writing within the appropriate Warranty Period, and accompanied by a detailed description of the alleged defect or nonconformity. If the media upon which the Software is delivered is determined to be defective following Licensee's timely submission of a claim hereunder, then MMS's sole obligation shall be to replace the Software within (5) five business days. If it is determined that the Software itself is not operating in conformance with its published specifications at any time during the applicable Warranty Period, then MMS shall use its best commercially reasonable efforts to correct such nonconformity within thirty (30) days following its receipt of notice of the nonconformity from Licensee. If MMS fails to remedy the nonconformity within such period of time, then Licensee may terminate this Agreement upon written notice to MMS at any time within ten (10) days thereafter, and in such event, (i) MMS shall provide Licensee with a full refund of all license fees paid by Licensee with respect to the nonconforming Software, and (ii) Licensee will have no further right or license with respect to the Software or Documentation hereunder. Licensee's modification of the Software will automatically void the warranty provided under Subsection 6.a. above. Licensee further agrees to pay MMS for any warranty-related services that are traced to Licensee's misuse or modification of the Software, at MMS's then current rates and charges.

c. Waiver of Other Warranties.

i) Licensee hereby acknowledges and agrees that MMS has made no representations or warranties to Licensee relating to the Software or the Documentation, or other assurances of any kind whatsoever, which are not expressly referenced in this Agreement.

ii) LICENSEE HEREBY ACCEPTS THE SOFTWARE AND DOCUMENATION "AS IS" AND WITHOUT WARRANTY, EXPRESS OR IMPLIED, EXCEPT AS TO THE WARRANTIES SET FORTH IN SECTION 6.a. ABOVE.

iii) LICENSEE FURTHER HEREBY EXPRESSLY WAIVES ANY AND ALL WARRANTIES, REPRESENTATIONS AND ASSURANCES OF ANY KIND, EXPRESS OR IMPLIED, WHICH ARE NOT EXPRESSLY SET FORTH HEREIN IN WRITING,

INCLUDING WITHOUT LIMITATION, ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

7. Noninfringement. MMS represents and warrants that MMS has the right to License the Software to Licensee free and clear of all liens, claims, and encumbrances not specified herein, and the Software will not infringe upon or misappropriate any U. S. copyright, trademark, or patent, or the trade secrets of any third party. Upon being notified of any claim to the contrary, MMS shall (i) indemnify Licensee, its officers, directors, employees, agents, and insurers from all liability, damages, costs and expenses, including attorneys' fees arising out of or related to any such claim, (ii) defend through litigation or obtain through negotiation the right of Licensee to continue using the Software, (iii) modify the Software so as to make it noninfringing, provided that the modified Software shall function materially the same, (iv) replace the Software with functionally equivalent software, or (v) if none of the foregoing alternatives is technically or economically feasible, terminate this Agreement and provide Licensee a refund of all fees paid hereunder.

8. Limitation of Liability.

a. Maximum Liability. MMS SHALL NOT BE LIABLE FOR ANY AMOUNT IN EXCESS OF THE LICENSE FEES ACTUALLY PAID BY LICENSEE.

b. Consequential Damages. IN NO EVENT SHALL MMS BE LIABLE, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST SAVINGS, LOST PROFITS OR BUSINESS INTERRUPTION, OR OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR PERTAINING TO THE SUBJECT MATTER OF THIS AGREEMENT, EVEN IF NOTIFIED IN ADVANCE OF THE POSSIBLITY OF SUCH DAMAGES.

9. Confidentiality.

a. The Software and all programs developed hereunder and all copies thereof are proprietary to MMS and title thereto remains in MMS. All applicable rights to patents, copyrights, trademarks and trade secrets in the Software or any modifications made at Licensee's request are and shall remain in MMS. Licensee shall not sell, transfer, publish, disclose, display or otherwise make available the Software, Documentation or copies thereof to any third parties. Licensee agrees to secure and protect the Software and Documentation, and their component parts, and copies thereof, in a manner consistent with the maintenance of MMS's rights therein, and to take appropriate action by instruction or agreement with its employees who are permitted access to each program or software product to satisfy its obligations hereunder. Licensee's obligations hereunder shall not apply to information that (i) becomes generally available to the public other than as a result of a disclosure made by Licensee; (ii) was available to Licensee on a non-confidential basis prior to the disclosure to Licensee by MMS; or (iii) becomes available to Licensee on a non-confidential basis from a source other than MMS provided that such source is not prohibited from transmitting the information to Licensee by any contractual, legal or fiduciary obligation.

b. Licensee further acknowledges and agrees that, in the event of Licensee's breach of its obligations under this provision, MMS will be entitled to temporary and permanent injunctive relief, without the necessity of bond, enjoining Licensee from committing any further breach, in addition to any other remedies to which it may be entitled at law or in equity.

10. Termination.

a. Events of Default. Either party may terminate this Agreement and the license(s) granted herein at any time and without further notice in the event that:

i) The other party breaches any of its material obligations under this Agreement and fails to cure such breach within thirty (30) days following its receipt of written notice thereof.

ii) The other party becomes insolvent, makes an assignment for the benefit of its creditors, or otherwise becomes the subject of any voluntary or involuntary bankruptcy proceeding under Chapter 7, Chapter 11 or Chapter 13 of the United States Bankruptcy Code, which is not dismissed within thirty (30) days following the date filed.

b. Return of Software. In the event of termination by reason of the Licensee's failure to comply with any part of this Agreement, or upon any act which shall give rise to MMS's right to terminate, then Licensee shall immediately cease using the Software and the Documentation, and (i) return all copies thereof to MMS, without notice or demand, or at MMS's election, (ii) destroy the Software, Documentation, and all copies thereof, and then certify to MMS in writing that such materials have been destroyed.

c. Survival. Under no circumstances will the termination of this Agreement or the license(s) relieve either party of any of its confidentiality obligations hereunder, or any other obligations which might reasonably be presumed to survive the termination of this Agreement. The remedy of termination shall be in addition to, and not in lieu of, any other remedies to which either party may be entitled, at law or in equity.

d. Refund of Maintenance and Support Fees. Except as otherwise provided herein, upon termination of this Agreement by Licensee following MMS's breach of any of its material obligations hereunder, and failure to cure such breach within thirty (30) days following its receipt of written notice thereof from Licensee, then MMS shall refund to Licensee the prorata portion of any prepaid maintenance or licensing fees (on a 12 month basis) paid by Licensee to Licensor.

11. Maintenance and Support.

a. Maintenance Period. MMS shall provide telephone technical support for the Software for a period of one (1) year after the Acceptance of the Software (the "Maintenance Period"). Any updates, upgrades and new releases to the Software released by MMS during the Maintenance Period will be provided at no additional charge. Licensee acknowledges and agrees that any updates which may be provided by MMS hereunder will be provided, "AS IS" and without warranty of any kind, express or implied. All support inquiries will receive an initial response within one (1) business day.

b. Remote Installation Assistance. At a time mutually agreeable to the parties, but in no instance greater than sixty (60) days after execution of this Agreement, MMS shall, at no additional charge: remotely assist Licensee with the installation and configuration of the Software so that the Software shall properly process data, run on Licensee's equipment, and otherwise function according to its specifications, assuming that Licensee's equipment meets MMS's minimum requirements for the Software.

c. Extended Maintenance. After the expiration of the initial Maintenance Period, MMS will provide the same maintenance and service offered during the initial Maintenance Period for a price not to exceed 105% of the annual maintenance and support fees for the preceeding year, or the amount of such fees as adjusted to account for any increase in the Consumer Price Index during the preceeding year, whichever is greater. Under no circumstances, however, will MMS be obligated to maintain or support any Software for more than twelve (12) months following the date of its initial release of any new version or release of the Software.

12. Compliance with Export Regulations. Licensee has or shall obtain in a timely manner all necessary or appropriate licenses, permits or other governmental authorizations or approvals; shall indemnify and hold MMS harmless from, and bear all expense of, complying with all foreign or domestic laws, regulations or requirements pertaining to the importation, exportation, or use of the technology to be developed or provided herein. Licensee shall not directly or indirectly export or re-export (including by transmission) any regulated technology to any country to which such activity is restricted by U.S. regulation or statute, without the prior written consent, if required, of the Bureau of Export Administration of the U.S. Department of Commerce. This provision and the assurances made herein shall survive termination of this Agreement.

13. General.

a. Entire Agreement. Licensee acknowledges and agrees it has read this Agreement, understands it, and agrees to be bound by its terms and conditions. Licensee further agrees that this is the complete and exclusive statement of the Agreement between the parties relating to the subject matter hereof, and supersedes any prior proposals by MMS or agreements between the parties, oral and written, relating to the subject matter of this Agreement.

b. Force Majeure. Dates or times by which either party is required to perform any particular obligations under this Agreement or the Order Form shall be postponed automatically to the extent that either party is prevented from meeting them by causes beyond its reasonable control.

c. Non-Waiver. The waiver or failure of either party to this Agreement to exercise in any respect any right provided for herein shall not be deemed a waiver of any further right hereunder.

Exhibit C – Manufacturer's Wholesale Price Schedule

Discount off of Manufacturer's Suggested Retail Price
20%

Exhibit D - Maintenance Renewal Package Pricing

Maintenance Renewal Package Pricing, as a Percentage of Manufacturer's Suggested Retail Price			
	Percent Paid for 3 Addn'l Years	Percent Paid for 4 Addn'l Years	Percent Paid for 5 Addn'l Years
	48%	60%	70%

Exhibit E – Upgrade Package

Extended Maintenance Upgrade Packages, as a Percentage of Manufacturer's Suggested Retail Price			
	1 Year Behind	2 Years Behind	3 Years Behind
	43%	66%	90%

EXHIBIT 4

SOFTWARE DISTRIBUTION AGREEMENT

(this "**Agreement**")

This Agreement made effective as of the 1st day of January, 2012 by and between Mobius Medical Systems, LP, a limited partnership organized under the laws of Texas, with an office at 906 Hutchins Street, Houston, Texas, U.S.A. (hereinafter called "**Manufacturer**") and Sun Nuclear, Inc., a corporation organized under the laws of Florida, with its principal office at 425-A Pineda Court, Melbourne, Florida 32940 (hereinafter called "**Distributor**").

WHEREAS, Manufacturer is in the business of developing, producing and licensing medical software for health-care providers;

WHEREAS, Distributor is in the business of selling and distributing medical software and manufacturing medical systems, and wishes to act as an exclusive distributor of Manufacturer's software and services more particularly described in Exhibit A and Exhibit E attached (hereinafter collectively defined as the "**Products**").

NOW, THEREFORE, in consideration of the premises and the mutual agreements and covenants hereinafter set forth, the parties hereto agree as follows:

1. Appointment of Distributor.

1.1 Appointment of Distributor. Manufacturer appoints Distributor, and Distributor agrees to act, as an exclusive distributor of the Products in the United States of America (defined as the "**Domestic Territory**") and as its exclusive distributor of the Products in those countries outside of the United States listed in Exhibit B in which Manufacturer has previously obtained, or hereafter obtains at any time during the term of this Agreement, all governmental, regulatory, agency and other approvals which may be required under applicable law (collectively, "**Regulatory Approvals**") (defined as the "**International Territory**"), collectively defined as the "**Territory**", and including Original Equipment Manufacturers (OEMs) for the term of this Agreement. In no event, however, should (a) the "International Territory" be construed as including any country to which the transmission or shipment of the Products is prohibited under regulations promulgated by the U.S. Dept. of Treasury's Office of Foreign Assets Control, or any other laws or regulations, or (b) anything contained in this Agreement be construed as (i) obligating Manufacturer to apply for, seek or pursue any Required Approvals, (ii) imposing any liability on Manufacturer due to its failure to do so, or (iii) authorizing Distributor to sell the Products in any country in which the Required Approvals have not been obtained.

1.2 Exclusivity. During the term of this Agreement, Manufacturer appoints Distributor exclusive rights to sell any of the Products directly in the Domestic and International Territories, including OEMs. In addition, Manufacturer may sell any of the Products directly in the International Territory where Distributor has chosen not to participate in, or has been prohibited from entering such markets.

1.3 Distributor Relationship. During the term of this Agreement, Distributor shall at Distributor's sole cost and expense:

(a) Faithfully and diligently use its best efforts to promote, advertise, market, offer for sale and sell the Products in the Territories and cooperate with Manufacturer in maximizing sales of the Products in the Territories;

(b) Comply with all laws applicable to sale of the Products in the Territories at its sole cost and expense, including without limitation, those laws applicable to the Distributor's lawful ability to sell the Products in any particular countries within the Territories.

(c) Cooperate fully with Manufacturer in the event of a compulsory or advisory market or regulatory compliance action.

(d) Provide Manufacturer with a monthly Product Opportunity Report, whose use by Manufacturer is subject to compliance with the Confidential Information provisions listed in Section 9 of this agreement with respect to customer lists and customer opportunities.

1.4 Promotional Materials and Training. The Manufacturer will provide the Distributor with such promotional materials as Manufacturer may deem appropriate for Distributor's use in selling the Products (collectively, the "**Manufacturer's Promotional Materials**"), and Distributor may also create localized promotional materials for particular markets (collectively, the "**Distributor's Promotional Materials**"), which (a) conform to such trademark usage guidelines and other guidelines as Manufacturer may prescribe from time to time, and (b) may be requested for review by Manufacturer. Training of sales personnel shall be conducted if and when Manufacturer deems it to be necessary or appropriate, and Distributor shall participate in any and all such sales training, which shall be conducted remotely and/or via teleconference or video conference. Any travel expense and costs for Distributor's employees shall be borne solely by the Distributor. Any travel expense and costs for Manufacturer's employees shall be borne solely by the Manufacturer.

1.5 Ownership. Subject to the license rights set forth herein and in the End User License Agreement set forth in Exhibit C (the "**License Terms**"), the Manufacturer shall own all right, title, and interest in the Products, the Documentation and all intellectual property rights therein.

1.6 No Right to Manufacture. Distributor hereby acknowledges and agrees that this Agreement does not grant it any right to manufacture or otherwise reproduce the Products described herein in any way.

2. Trademarks. So long as this Agreement is in effect, and Distributor complies with all of Distributor's obligations hereunder, Distributor shall have the right to use the trade names, trademarks, brand names and other names (collectively "**Trademarks**") identifying Products supplied by Manufacturer to the extent such Trademarks are actually affixed to or upon the Products or upon cartons and containers in which they are packaged or sold by Manufacturer and provided to Distributor, or upon printed or electronic versions of Manufacturer's Promotional Materials supplied by Manufacturer and Distributor's Promotional Materials in accordance with Section 1.4 above. Except as to the licenses granted above, Manufacturer expressly reserves all right, title and license in and to the Trademarks (with the exception of the FractionCHECK

product name, which was created by the combined efforts of Manufacturer and Distributor), and neither party shall have the right to use the name of the other, or such party's trademarks, service marks, logos or other similar marks of any kind without the prior written approval of such other party. Manufacturer and Distributor agree that the FractionCHECK name will not be used by either party subsequent to the termination of this Agreement.

3. Relationship. This Agreement does not create a relationship of principal and agent, or otherwise constitute a joint venture, partnership, association or other similar relationship between the parties or their affiliates. Both parties are acting as independent contractors. Distributor is not granted herein any right or authority to, and shall not attempt to, assume or create any obligation or responsibility for or on behalf of Manufacturer.

4. Terms of Orders and Sales.

4.1 License Terms. Manufacturer shall provide Distributor with an electronic copy of the License Terms, and shall further provide Distributor with its written instructions as to the means by which the License Terms are to be presented to Licensees (*e.g.* by use of an electronic click-wrap agreement, or through other means). Manufacturer reserves the right to change the License Terms from time to time upon not less than ninety (90) days prior written notice to Distributor.

4.2 Orders. Distributor may issue Quotes to prospective Licensees and resell the Products at such prices as the Distributor may reasonably determine, and shall have no duty or obligation to sell the Products at the Manufacturer's Suggested Retail Price.

4.3 Pricing; Wholesale Discount. The price to be paid by the Distributor to Manufacturer (the "Wholesale Price") for purchases of Products in both the Domestic Territory and the International Territory, including OEMs, shall be determined in accordance with Exhibit D, and as a discount off of the Manufacturer's Suggested Retail Price for the Products as set forth in Exhibit A (the "Suggested Retail Price"). Distributor acknowledges that the Suggested Retail Price of the Products may be modified by Manufacturer from time to time upon not less than one hundred eighty (180) days prior written notice to Distributor, and that the amount of the Wholesale Price payable by the Distributor hereunder shall be automatically modified accordingly, upon the effective date of modification of the Suggested Retail Price.

4.4 Shipping. All purchase orders ("Orders") placed by the Distributor hereunder shall be shipped F.O.B. destination to Distributor, or to such other location as Distributor may specify in writing in the Order.

4.5 Terms of Payment. Distributor shall and does hereby agree to pay Manufacturer the Wholesale Price for all Products purchased by Distributor hereunder, no later than sixty (60) days from the date of Manufacturer's invoice for Products purchased for resale in the Domestic Territory, and ninety (90) days from date of Manufacturer's invoice for Products purchased for resale in the International Territory. Invoices shall only be sent to Distributor upon or after Manufacturer's shipment of the relevant Products. All such payments shall be made in United States Dollars.

4.6 Technical Support.

(a) Domestic Territory, Including OEMs. Manufacturer will be solely responsible for providing all technical support services, including installation, training, and ongoing technical support and the Distributor shall have no duties or responsibilities in that regard, unless otherwise agreed in writing.

(b) International Territory, Including OEMs. Although Manufacturer will be ultimately responsible for providing technical support services, including installation, training, and ongoing technical support, Distributor and its Authorized Agents may provide similar services to customers, and shall cooperate with and assist Manufacturer in delivering these services to customers.

(c) Distributor Customer List. Distributor will share sufficient contact information of Licensees with Manufacturer to allow Manufacturer to provide technical support and product recall notices as required by the foregoing provisions of this Section 4.6.

(d) Reporting Product Issues. Distributor and its Authorized Agents will notify Manufacturer of any Product Defects or Product issues reported by Distributor or Distributor's customers and provide reports, where applicable, documenting such Product issues to Manufacturer.

4.7 Maintenance Renewal Package. A Maintenance Renewal Package is defined as one or more additional years, not including the first year, of Annual Product Maintenance being sold as part of the Licensee's initial order of the Product. Distributor shall have exclusive rights to sell the Maintenance Renewal package(s) more particularly described in Exhibit E to each customer in the Domestic or International Territory, including OEM customers, who purchase a Product, for an annual fee as specified therein. Inasmuch as the Maintenance Renewal Package involves services that will be provided directly by the Manufacturer, Distributor acknowledges and agrees that it is merely acting as the Manufacturer's sales representative in regard to the sale of any such Maintenance Renewal Packages, and that the price it will charge Licensees for Maintenance Renewal Packages will therefore be as specified in Exhibit E. Distributor shall also have exclusive rights to sell Maintenance Renewal packages to customers in the Domestic or International Territories, including OEM customers, for all years following the initial sale year of the Product.

4.8 Trade Shows. Distributor may promote the Products at trade shows such as ASTRO, AAPM and ESTRO; provided that the Distributor related cost of promoting the Products at trade shows shall be borne by the Distributor.

5. Warranties. Each party represents and warrants to the other that:

5.1 It has full power and authority to make and enter into this Agreement and perform all obligations to be performed by it under this Agreement without any restriction;

5.2 The execution and delivery of this Agreement, and the performance of its obligations hereunder, has been duly authorized by all necessary corporation action; and

5.3 This Agreement constitutes the legal, valid and binding obligation of such party.

6. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL, INCIDENTIAL, INDIRECT, SPECIAL OR OTHER SIMILARLY INDIRECT OR EXTRACONTRACTUAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT.

7. Non-Competition. Distributor covenants and agrees that it (a) will not serve as a distributor, dealer or sales agent of, and not to sell, license, lease or market, any third party products which are Directly Competitive with the Products, at any time during the term of this Agreement and for a period of six (6) months after the expiration or earlier termination; and (b) will not to sell any of its own products which are Directly Competitive with the Products at any time during the term of this Agreement and for a period of six (6) months thereafter. For purposes of the foregoing covenant, any and all products whose primary function is film or EPID based image analysis software for radiation oncology linear accelerator QA as defined in AAPM TG-142, and treatment log analysis software whose primary function is per fraction QA, will be deemed to be "Directly Competitive" with the Products.

8. Indemnification

8.1 Indemnification by Distributor. Distributor shall indemnify and hold harmless Manufacturer, its officers, directors, agents, servants, employees, affiliates, representatives, successors, and assigns from and against all losses, liabilities, costs and expenses (including, without limitation, attorneys' fees) arising out of or in connection with any violation by Distributor, its employees, agents or representatives of any applicable laws.

8.2 Indemnification by Manufacturer. Manufacturer shall indemnify and hold harmless Distributor, its officers, directors, agents, servants, employees, affiliates, representatives, successors, and assigns from and against all losses, liabilities, costs and expenses (including, without limitation, attorneys' fees) arising out of or in connection with any suit brought by a third party against Distributor or Customer to the extent that such suit is based on the claim that any Products provided by Manufacturer hereunder infringes upon any copyright, patent or trademark registered with or granted by the United States Patent & Trademark Office, or that the Products (in the form provided by Manufacturer hereunder) do not conform with the Food, Drug and Cosmetic Act, as amended from time to time, or any other laws, regulations or orders applicable to the manufacture of such Products in the United States, or any similar act or regulation applicable in any International Territory (as such term is defined in Section 1.1 above) in which Distributor distributes Products hereunder.

9. Confidential Information.

9.1 Acknowledgment of Confidentiality. Each party hereby acknowledges that it may be exposed to confidential and proprietary information belonging to or supplied by the other party or relating to its business operations and affairs including, without limitation, customer lists and customer opportunities, market intelligence, pricing, market share, revenue, discount and IP knowledge and other technical information (including any Functional Design, Technical Design, drawings, analysis, research, processes, computer programs, methods, ideas, "know how" and the like), business information (sales and marketing research, materials, plans, accounting and

financial information, personnel records and the like) and other information designated as confidential expressly or by the circumstances in which it is provided ("**Confidential Information**"). Confidential Information does not include (i) information already known or independently developed by the recipient outside the scope of this project by personnel not having access to Confidential Information; (ii) information in the public domain through no wrongful act of the recipient, or (iii) information received by the recipient from a third party who was free to disclose it.

9.2 Covenant Not to Use or Disclose. With respect to each party's Confidential Information, and except as expressly authorized herein, the each party hereby agrees that during the Term hereof and at all times thereafter it shall not use or disclose such Confidential Information to any person or entity, except to its own employees having a "need to know" (and who are themselves bound by similar nondisclosure restrictions), and to such other recipients as the other party may approve in writing; provided, that all such recipients shall have first executed a confidentiality agreement in a form acceptable to the owner of such information. Distributor may not: (i) alter or remove from any Product or associated documentation owned or provided by the Manufacturer any proprietary, copyright, trademark or trade secret legend, or (ii) attempt to decompile, disassemble or reverse engineer Manufacturer's Products (and any information derived in violation of such covenant shall automatically be deemed Confidential Information owned exclusively by the Manufacturer). Each party shall use at least the same degree of care in safeguarding the other party's Confidential Information as it uses in safeguarding its own confidential information.

10. Insurance.

10.1 Manufacturer's Obligation. Manufacturer shall maintain comprehensive general liability insurance and products liability and completed operations insurance with regard to the Products sold and provided to Distributor hereunder, naming Distributor as an additional named insured. For Distributor sales of Products in the United States said insurance will be in the amount not less than One Million Dollars ($1,000,000) per occurrence and One Million Dollars ($1,000,000) aggregate. For Distributor sales outside the United States, Manufacturer acknowledges its obligation to indemnify Distributor under the Uniform Commercial Code. Manufacturer shall ensure that adequate insurance is maintained during each policy period coming within the Term of this Agreement, and for a period of two (2) years after the last delivery of the Products under the terms of this Agreement. The duty and obligation of Manufacturer to obtain insurance described above with regard to Products sold and provided to Distributor will not be forfeited on the basis that Distributor did not obtain written proof of insurance from Manufacturer.

10.2 Distributor's Obligation. Distributor shall maintain comprehensive general liability insurance and completed operations insurance with regard to its sale of Products pursuant to this Agreement. Said insurance will be in an amount not less than One Million Dollars ($1,000,000) per occurrence and One Million Dollars ($1,000,000) aggregate. Distributor shall ensure that such insurance is maintained during each policy period coming within the terms of this Agreement, and for a period of two (2) years after the last sale of the Products under the terms of this Agreement. The duty and obligation of Distributor to obtain

insurance described above will not be forfeited on the basis that Manufacturer did not obtain written proof of insurance from Distributor.

11. Changes in or Discontinuance of Products. Manufacturer reserves the right to discontinue the manufacture or sale of Product for any reason in its sole discretion upon not less than one hundred eighty (180) days prior written notice to Distributor.

12. Duration of Agreement; Terms. This Agreement shall become effective as of the date first above written and, unless this Agreement shall be terminated before the end of any such term as provided elsewhere in this Agreement, this Agreement shall remain in effect (a) for an initial term of one (1) year and (b) thereafter automatically for additional terms of one year each upon the termination of the initial term or any additional term. However, if either party exercises their rights under 13.1 below within six (6) months of the end of the initial term, or within six (6) months of any additional term thereafter, the initial term's or any additional term's expiration date will extend to no more than six (6) months from the date notice under 13.1 below is provided.

13. Termination of Agreement.

13.1 Termination for Any Reason. Notwithstanding any other provision of this Agreement to the contrary, either party may terminate this Agreement by giving one hundred eighty (180) days written notice of termination to the other party.

13.2 Termination for Breach. Distributor and Manufacturer shall each have the right to terminate this Agreement upon the giving of at least fifteen (15) days prior written notice to the other party in the event of breach by the other party of any provision of the Agreement. During such fifteen (15) day period, the party asserted to be in breach shall have the opportunity to correct the alleged breach. If such alleged breach is not reasonably correctable within such fifteen (15) day period and the breaching party is proceeding diligently with its efforts to correct such alleged breach, the breaching party shall have an additional twenty (20) day period to effect such correction. If such alleged breach is not so corrected, then this Agreement shall terminate in accordance with such notice of termination.

13.3 Bankruptcy, etc. Either party upon written notice to the other party may terminate this Agreement at any time in the event the other party shall make an assignment or trust mortgage for the benefit of its creditors, or shall file a voluntary petition under the bankruptcy, reorganization, insolvency or similar laws of any jurisdiction to which it is subject, or shall suffer an involuntary petition under such laws to be filed against it, or shall be adjudicated bankrupt or insolvent, or have an order for relief in bankruptcy entered concerning it, under the laws of any jurisdiction to which it is subject.

13.4 No Indemnity for Termination or Expiration. No indemnity or other payment shall be payable to Distributor or Manufacturer on account of goodwill, lost profits or any other factor in the event that this Agreement is terminated for any reason or expires.

13.5 Discontinuance of Use of Names. Upon and following any expiration or termination of this Agreement for any reason, Distributor and all Distributor Agents shall immediately cease holding itself out as an authorized distributor for Manufacturer and shall

cease soliciting the sale of, and distributing Products described herein, and using any and all Trademarks owned by or associated with Manufacturer.

14. International.

14.1 Export License. Distributor shall be solely responsible for procuring and maintaining all export and import licenses required under U.S. law or under the laws of any foreign nation within the International Territory which may be necessary for or applicable to the sale and commercialization of the Products within the Territory, at its sole cost and expense. In addition, Distributor shall also comply with any and all applicable laws pertaining to the export or import of the Products from the U.S. to any foreign country, and shall not export any Product without first obtaining the written approval or required export license to do so from the U.S. Dept. of Commerce or any other agency of the U.S. Government having jurisdiction over such transactions. In no event shall Distributor transmit or ship the Products, directly or indirectly, to any person or country to whom the transmission or shipment of such Products would be prohibited under regulations promulgated by the U.S. Dept. of Treasury's Office of Foreign Assets Control.

14.2 Compliance with Local Laws. Distributor covenants and agrees that it will comply with all applicable laws relating to the Products, at its sole cost and expense, in the countries in which Distributor elects to market the Products, and that it will cause its employees, agents, contractors and local sales representatives to do so, as well, and that in no event shall any such persons or entities engage in any conduct which would violate the U.S. Foreign Corrupt Practices Act or any similar laws of any country within the Territory.

15. General.

15.1 Force Majeure. Neither Manufacturer nor Distributor shall be liable for any failure or delay in delivery, in whole or in part, or for any other failure or delay in performance of any of its obligations under this Agreement (other than a failure or delay in the making of any payment required hereunder) if such failure or delay is caused by circumstances not directly under its control, including, by way of illustration but not limitation, war and war measures (whether an actual declaration thereof is made or not), sabotage, insurrection, riot or other act of civil disobedience, act of a public enemy, force majeure, flood, storm or other acts of God, acts of public authorities or courts, government orders and requirements, strikes, lockouts, fires, explosions, shortages of labor, fuel, raw materials or machinery or failures or delays of suppliers or carriers.

15.2 Construction of Agreement; Language. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, U.S.A.

15.3 Survival of Provisions. Each of the parties acknowledges and agrees that Sections 5, 6, 7, 8, 9, 13 and 14 hereof and all of their respective obligations thereunder shall survive the expiration or earlier termination of this Agreement for any reason.

15.4 Prior Agreements. This Agreement and the Terms, as from time to time in effect, contain the entire agreement between the parties concerning the subject hereof and

supersede all prior agreements and understandings, written or oral, between them concerning such subject matter.

15.5 Non-Waiver and Amendment. This Agreement and the warranties, representations and agreements contained herein may not be waived, modified or amended, in whole or in part, except by written agreement executed by authorized officers of the two parties, and no course of dealing or failure or delay by either party shall constitute a waiver hereunder.

15.6 Assignment and Benefits. This Agreement is personal to the Distributor. Neither this Agreement nor any interest in it shall be assigned directly or indirectly by Distributor without the prior written consent of Manufacturer, which consent Manufacturer may withhold for any reason. Subject to the foregoing provisions of this Section 15.6 this Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective legal representatives, successors and permitted assigns.

15.7 Arbitration. Unless solved by mutual endeavors of the parties hereto, except as otherwise set forth in this Section 15.7 and except for any differences, disputes or claims that may arise out of or in connection with Distributor's covenants and agreements in and for which Manufacturer shall seek equitable relief, all differences, disputes or claims arising in connection with this Agreement or any transaction or occurrence contemplated hereby shall be finally settled in Delaware under the Commercial Rules of the American Arbitration Association, by one or more arbitrators appointed in accordance with such Rules. Such arbitration shall be conducted in the English language. It is understood that the decision in such arbitration shall be binding on both parties and that a judgment upon any award rendered, which may include an award of damages, may be entered in any court having jurisdiction.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement as a contract under seal as of the date first above written.

DISTRIBUTOR:

Sun Nuclear, Inc.

By: _____,
Jeff Simon, Chief Executive Officer

Date: 12/17/11

MANUFACTURER:

Mobius Medical Systems, LP

By: _____
Nathan Childress, Managing Member

Date: 12/17/11

Exhibit A – Products and Manufacturer's Suggested Retail Price Schedule

Domestic & International Territories, Including OEMs Manufacturer's Suggested Retail Schedule (in US Dollars)		
Product	Domestic Territory Suggested Retail Price	International Territory Suggested Retail Price
DoseLab TG-142	$ 12,950	$ 12,950
DoseLab Pro	$ 16,950	$ 16,950
DoseLab TG-142 Add'l License	$ 9,950	$ 9,950
DoseLab Pro Add'l License	$ 13,950	$ 13,950
FractionCHECK	$ 7,950	$ 7,950
Services		
DoseLab TG-142 Maintenance	$ 1,950	$ 1,950
DoseLab Pro Maintenance	$ 2,550	$ 2,550
FractionCHECK Maintenance	$ 1,195	$ 1,195
TRNG-T1	$ 3,000	$ 3,000
TRNG-T2	$ 2,000	$ 2,000

Exhibit B – International Territories & Authorized Agents

EMEA	Current Dealer
UK and Ireland	Imaging Equipment
Germany	IBO
Czech Rep.	Kortec
Belgium	PEO Radiation Technology BVBA
Netherlands	Promis Electro Optics BV
Luxembourg	PEO Radiation Technology BVBA
Switzerland	MediTron
Hungary	Fototronics
Poland	Astra
France	Seemed
Spain	Aplicaciones Tecnologicas
Italy	Tecnologie Avanzate
Norway	Radiotherapy Equipment Scandinavia AB
Sweden	Radiotherapy Equipment Scandinavia AB
Finland	Radiotherapy Equipment Scandinavia AB
Iceland	Radiotherapy Equipment Scandinavia AB
Denmark	Hoy Scientific
Portugal	Pronuclear
Greece	Biokosmos
South Africa	CM Nuclear
Russia	MPC
Turkey	Epsilon Elektronics
Iran	PIPSA
Jordon	Trading Medical Systems
Saudi Arabia	Al-Zahrawi Medical
U.A.E.	Al-Zahrawi Medical
Qatar	Al-Zahrawi Medical
Bahrain	Al-Zahrawi Medical
Kuwait	Bader Sultan

Canada	**Current Dealer**
Canada	CSP Medical

South America	**Current Dealer**
Brazil	Multcare
Chile	Controlmed
Argentina	Photonix
Uruguay	Photonix
Mexico	Tec Med
Colombia	Tele Rad
Guatemala	Makol
El Savador	Makol
Belize	Makol

Honduras	Makol
Nicaragua	Makol
Costa Rica	Makol
Panama	Makol

Asia Pacific	**Current Dealer**
India	POCL
Pakistan	Medequips
Australia/NZ	CMS Alphatech
Japan	Toyo Medic
Hong Kong	Apex
China	Beijing Kanlida
China	Shanghai Eastern
South Korea	Jiyeon Medical
Singapore	O'Connors
Taiwan	Blessing Cathay
Thailand	Business Alignment
Philippines	Vicstar Trading
Indonesia	PT Quantum

Exhibit C – End User License Agreement

Mobius Medical Systems, LP

END USER LICENSE AGREEMENT

(this "Agreement")

This Agreement is made and entered into as of the date of installation (the "Effective Date"), by and between Mobius Medical Systems, LP, a Texas corporation ("MMS"), and the Institution who has purchased the software (the "Licensee").

1. License. Subject to the terms and conditions of this Agreement, MMS hereby grants to Licensee, and Licensee accepts from MMS, the nonexclusive, nontransferable, right and license to use MMS's DoseLab Pro Software (the "Software") and any accompanying documentation provided by MMS (the "Documentation"), as well as any updates, upgrades, and new releases to the same which MMS may provide to Licensee in fulfillment of its maintenance and support obligations hereunder, for Licensee's use only at the locations for analysis of measurements performed only on the radiation producing machines which are described in the applicable purchase order or other ordering document (collectively, the "Purchase Order"), and at such alternate or additional locations in the United States as MMS may authorize from time to time in writing upon Licensee's prior written request. Licensee further acknowledges and agrees that any and all licenses granted under any Purchase Orders submitted by either party to the other, will be governed by the terms and conditions set forth in this Agreement, and that terms and conditions of this Agreement will prevail in the event of any conflict between this Agreement and any Purchase Order.

2. License Fee. In consideration of the licenses granted by MMS with respect to the Software and Documentation, Licensee shall and does hereby agree to pay MMS (i) the license fees specified in the Purchase Order within thirty (30) days after its receipt of MMS's invoice, and (ii) such additional license fees as may become due and payable hereunder or under any additional Purchase Orders, or as Licensee may owe in the event Licensee otherwise uses the Software at any locations not otherwise listed in a Purchase Order, within thirty (30) days after its receipt of MMS's invoice.

3. Term. The term of this Agreement, and the licenses granted hereunder will continue in perpetuity, unless sooner terminated by a party in accordance with Section 10 below.

4. Ownership. Licensee acknowledges and agrees that:

a. The Software and Documentation is protected by copyright laws and international copyright treaties, and other intellectual property laws and treaties;

b. Title to the Software and the Documentation, and to any and all copies, modifications, or enhancements made by MMS, Licensee or any other party, shall be and remain with MMS; and

c. Except as to the rights and licenses granted to Licensee hereunder, MMS reserves all other rights to the Software and Documentation.

d. MMS acknowledges and agrees that all data supplied by Licensee and is stored in and/or manipulated by the Software shall remain the sole and exclusive property of Licensee.

5. Restrictions.

a. Copies. Except for the other restrictions expressly set forth herein, neither the Software nor the Documentation may be copied, duplicated or distributed without MMS's prior written consent; provided, however, that Licensee may make one (1) copy of the Software and Documentation to be stored off-site for backup, recovery, and archival purposes.

b. Authorized Users; Indemnity.

i) Licensee must not: (1) rent, lease, sub-license, transfer, convey or otherwise permit any third party to use the Software, (2) use the Software in the operation of a service bureau, or of the benefit of any third party other than its direct patients, or (3) allow remote access to the Software through any computers or terminals located outside the locations specified in any applicable Purchase Orders.

ii) LICENSEE COVENANTS AND AGREES THAT, IN NO EVENT WILL ANY PARTY BE ALLOWED TO USE THE SOFTWARE, OTHER THAN TECHNICIANS WHO ARE TRAINED BY MMS OR A TRAINED LICENSEE STAFF MEMBER.

iii) Licensee shall and does hereby agree to defend MMS from and against any and all third party actions, claims, demands, lawsuits, or proceedings of any kind (collectively, "Proceedings") arising from or relating to Licensee's alleged or actual breach of the covenant set forth in the preceding paragraph, and further agrees to indemnify and hold MMS harmless from and against any and all awards, costs, damages, judgments, liabilities and harm of any kind, including without limitation, reasonable attorneys' fees, suffered or incurred by MMS in connection with any such Proceedings.

c. Reverse Engineering. Licensee must not, directly or indirectly, copy, use, analyze, reverse engineer, decompile, disassemble, translate, convert, or apply any procedure or process relating to the Software in order to ascertain, derive, or appropriate for any reason or purpose, the source code or source listings for the Software or any trade secret or other proprietary information or processes embodied by or otherwise contained in the Software.

d. Nonassignment. Neither this Agreement, nor any right, license or obligation of Licensee hereunder, may be transferred, assigned, conveyed, delegated, sublicensed, moved, relocated or otherwise sold to any third party, in whole or in part, without MMS's prior written consent, and any attempt to the contrary shall be void and of no legal effect. For purposes of this Agreement, the merger, consolidation, or other reorganization of Licensee with any third party will be considered a prohibited assignment, and will be voidable at the election of MMS.

6. Warranty.

a. Warranty; Warranty Period. MMS represents and warrants that the media upon which the Software is delivered will be free from defects in materials and workmanship for a period of thirty (30) days after shipment, and that the Software will operate in conformance with its

published specifications for a period of (i) ninety (90) days from the date of Licensee's installation of the Software, or (ii) ninety (90) days from the date sixty (60) days after MMS's delivery of the Software; whichever is earlier, and that all remote installation and configuration work performed by MMS shall be performed in a professional and workmanlike manner (collectively, the ("Warranty Periods").

b. Submission of Claims; Remedies. Any warranty-related claims by Licensee must be submitted in writing within the appropriate Warranty Period, and accompanied by a detailed description of the alleged defect or nonconformity. If the media upon which the Software is delivered is determined to be defective following Licensee's timely submission of a claim hereunder, then MMS's sole obligation shall be to replace the Software within (5) five business days. If it is determined that the Software itself is not operating in conformance with its published specifications at any time during the applicable Warranty Period, then MMS shall use its best commercially reasonable efforts to correct such nonconformity within thirty (30) days following its receipt of notice of the nonconformity from Licensee. If MMS fails to remedy the nonconformity within such period of time, then Licensee may terminate this Agreement upon written notice to MMS at any time within ten (10) days thereafter, and in such event, (i) MMS shall provide Licensee with a full refund of all license fees paid by Licensee with respect to the nonconforming Software, and (ii) Licensee will have no further right or license with respect to the Software or Documentation hereunder. Licensee's modification of the Software will automatically void the warranty provided under Subsection 6.a. above. Licensee further agrees to pay MMS for any warranty-related services that are traced to Licensee's misuse or modification of the Software, at MMS's then current rates and charges.

c. Waiver of Other Warranties.

i) Licensee hereby acknowledges and agrees that MMS has made no representations or warranties to Licensee relating to the Software or the Documentation, or other assurances of any kind whatsoever, which are not expressly referenced in this Agreement.

ii) LICENSEE HEREBY ACCEPTS THE SOFTWARE AND DOCUMENATION "AS IS" AND WITHOUT WARRANTY, EXPRESS OR IMPLIED, EXCEPT AS TO THE WARRANTIES SET FORTH IN SECTION 6.a. ABOVE.

iii) LICENSEE FURTHER HEREBY EXPRESSLY WAIVES ANY AND ALL WARRANTIES, REPRESENTATIONS AND ASSURANCES OF ANY KIND, EXPRESS OR IMPLIED, WHICH ARE NOT EXPRESSLY SET FORTH HEREIN IN WRITING, INCLUDING WITHOUT LIMITATION, ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

7. Noninfringement. MMS represents and warrants that MMS has the right to License the Software to Licensee free and clear of all liens, claims, and encumbrances not specified herein, and the Software will not infringe upon or misappropriate any U. S. copyright, trademark, or patent, or the trade secrets of any third party. Upon being notified of any claim to the contrary, MMS shall (i) indemnify Licensee, its officers, directors, employees, agents, and insurers from all liability, damages, costs and expenses, including attorneys' fees arising out of or related to any such claim, (ii) defend through litigation or obtain through negotiation the right of Licensee

to continue using the Software, (iii) modify the Software so as to make it noninfringing, provided that the modified Software shall function materially the same, (iv) replace the Software with functionally equivalent software, or (v) if none of the foregoing alternatives is technically or economically feasible, terminate this Agreement and provide Licensee a refund of all fees paid hereunder.

8. Limitation of Liability.

a. Maximum Liability. MMS SHALL NOT BE LIABLE FOR ANY AMOUNT IN EXCESS OF THE LICENSE FEES ACTUALLY PAID BY LICENSEE.

b. Consequential Damages. IN NO EVENT SHALL MMS BE LIABLE, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST SAVINGS, LOST PROFITS OR BUSINESS INTERRUPTION, OR OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR PERTAINING TO THE SUBJECT MATTER OF THIS AGREEMENT, EVEN IF NOTIFIED IN ADVANCE OF THE POSSIBLITY OF SUCH DAMAGES.

9. Confidentiality.

a. The Software and all programs developed hereunder and all copies thereof are proprietary to MMS and title thereto remains in MMS. All applicable rights to patents, copyrights, trademarks and trade secrets in the Software or any modifications made at Licensee's request are and shall remain in MMS. Licensee shall not sell, transfer, publish, disclose, display or otherwise make available the Software, Documentation or copies thereof to any third parties. Licensee agrees to secure and protect the Software and Documentation, and their component parts, and copies thereof, in a manner consistent with the maintenance of MMS's rights therein, and to take appropriate action by instruction or agreement with its employees who are permitted access to each program or software product to satisfy its obligations hereunder. Licensee's obligations hereunder shall not apply to information that (i) becomes generally available to the public other than as a result of a disclosure made by Licensee; (ii) was available to Licensee on a non-confidential basis prior to the disclosure to Licensee by MMS; or (iii) becomes available to Licensee on a non-confidential basis from a source other than MMS provided that such source is not prohibited from transmitting the information to Licensee by any contractual, legal or fiduciary obligation.

b. Licensee further acknowledges and agrees that, in the event of Licensee's breach of its obligations under this provision, MMS will be entitled to temporary and permanent injunctive relief, without the necessity of bond, enjoining Licensee from committing any further breach, in addition to any other remedies to which it may be entitled at law or in equity.

10. Termination.

a. Events of Default. Either party may terminate this Agreement and the license(s) granted herein at any time and without further notice in the event that:

i) The other party breaches any of its material obligations under this Agreement and fails to cure such breach within thirty (30) days following its receipt of written notice thereof.

ii) The other party becomes insolvent, makes an assignment for the benefit of its creditors, or otherwise becomes the subject of any voluntary or involuntary bankruptcy proceeding under Chapter 7, Chapter 11 or Chapter 13 of the United States Bankruptcy Code, which is not dismissed within thirty (30) days following the date filed.

b. Return of Software. In the event of termination by reason of the Licensee's failure to comply with any part of this Agreement, or upon any act which shall give rise to MMS's right to terminate, then Licensee shall immediately cease using the Software and the Documentation, and (i) return all copies thereof to MMS, without notice or demand, or at MMS's election, (ii) destroy the Software, Documentation, and all copies thereof, and then certify to MMS in writing that such materials have been destroyed.

c. Survival. Under no circumstances will the termination of this Agreement or the license(s) relieve either party of any of its confidentiality obligations hereunder, or any other obligations which might reasonably be presumed to survive the termination of this Agreement. The remedy of termination shall be in addition to, and not in lieu of, any other remedies to which either party may be entitled, at law or in equity.

d. Refund of Maintenance and Support Fees. Except as otherwise provided herein, upon termination of this Agreement by Licensee following MMS's breach of any of its material obligations hereunder, and failure to cure such breach within thirty (30) days following its receipt of written notice thereof from Licensee, then MMS shall refund to Licensee the prorata portion of any prepaid maintenance or licensing fees (on a 12 month basis) paid by Licensee to Licensor.

11. Maintenance and Support.

a. Maintenance Period. MMS shall provide telephone technical support for the Software for a period of one (1) year after the Acceptance of the Software (the "Maintenance Period"). Any updates, upgrades and new releases to the Software released by MMS during the Maintenance Period will be provided at no additional charge. Licensee acknowledges and agrees that any updates which may be provided by MMS hereunder will be provided, "AS IS" and without warranty of any kind, express or implied. All support inquiries will receive an initial response within two (2) business days.

b. Remote Installation Assistance. At a time mutually agreeable to the parties, but in no instance greater than sixty (60) days after execution of this Agreement, MMS shall, at no additional charge: remotely assist Licensee with the installation and configuration of the Software so that the Software shall properly process data, run on Licensee's equipment, and otherwise function according to its specifications, assuming that Licensee's equipment meets MMS's minimum requirements for the Software.

c. Extended Maintenance. After the expiration of the initial Maintenance Period, MMS will provide the same maintenance and service offered during the initial Maintenance Period for an additional fee. Under no circumstances, however, will MMS be obligated to maintain or support

any Software for more than twelve (12) months following the date of its initial release of any new version or release of the Software.

12. Compliance with Export Regulations. Licensee has or shall obtain in a timely manner all necessary or appropriate licenses, permits or other governmental authorizations or approvals; shall indemnify and hold MMS harmless from, and bear all expense of, complying with all foreign or domestic laws, regulations or requirements pertaining to the importation, exportation, or use of the technology to be developed or provided herein. Licensee shall not directly or indirectly export or re-export (including by transmission) any regulated technology to any country to which such activity is restricted by U.S. regulation or statute, without the prior written consent, if required, of the Bureau of Export Administration of the U.S. Department of Commerce. This provision and the assurances made herein shall survive termination of this Agreement.

13. General.

a. Entire Agreement. Licensee acknowledges and agrees it has read this Agreement, understands it, and agrees to be bound by its terms and conditions. Licensee further agrees that this is the complete and exclusive statement of the Agreement between the parties relating to the subject matter hereof, and supersedes any prior proposals by MMS or agreements between the parties, oral and written, relating to the subject matter of this Agreement.

b. Force Majeure. Dates or times by which either party is required to perform any particular obligations under this Agreement or the Order Form shall be postponed automatically to the extent that either party is prevented from meeting them by causes beyond its reasonable control.

c. Non-Waiver. The waiver or failure of either party to this Agreement to exercise in any respect any right provided for herein shall not be deemed a waiver of any further right hereunder.

Exhibit D - Manufacturer's Wholesale Price Schedule

Domestic Territory

Discount off of Manufacturer's Suggested Retail Price
25%

International Territory

Discount off of Manufacturer's Suggested Retail Price
40%

Exhibit E - Maintenance Renewal Package Pricing

Domestic & International Territories, Including OEMs Maintenance Renewal Packages Percent of Manufacturer's Suggested Retail Price		
Percent for 2 Addn'l Years	Percent for 3 Addn'l Years	Percent for 4 Addn'l Years
25%	30%	40%

EXHIBIT 5

TRANSITION AGREEMENT

Effective March 8, 2013 this Transition Agreement was entered into between Mobius Medical Systems, LP ("Mobius") and Sun Nuclear Corporation ("SNC") to terminate certain portions of the earlier November 14, 2011 Software Distribution Agreement between them ("the 11/14/2011 Agreement"), and to substitute this Transition Agreement in its place.

Whereas, Mobius and SNC each agree that it is their best interests to terminate certain portions of the 11/14/2011 Agreement; and

Whereas, Mobius and SNC agree that a transition of their relationship under the terms set out below is also their best interests.

Now therefore, Mobius and SNC, having exchanged valuable consideration, both agree that the distribution relationship between them set out in the 11/14/2011 Agreement is terminated and their relationship shall be governed by the terms and conditions set out below.

1. Mobius Property

   a) SNC retains USA exclusivity for DoseLab and FractionCHECK excluding Maintenance, until 9/8/2013, and worldwide (less USA) exclusivity until 12/31/2013.

   b) SNC guarantees $1,691,433 in purchase orders to Mobius of DoseLab and FractionCHECK related products, excluding Maintenance, between 3/1/2013 and 12/31/2013. This is calculated as follows:
      - SNC notification date to Mobius:
        - 3/8/2013
      - 3/1/2012 -2/28/2013 (Period) total Mobius BOOKINGS by SNC excluding maintenance
        - $2,636,000
      - Effective SNC commission rate:
        - 23%
      - Effective Period purchases by SNC:
        - $2,636,000*77% = $2,029,720
      - Prorate Period purchases 10 months (3/1/2013 – 12/31/2013):
        - 10/12*$2,029,720 = $1,691,433
      - Note: $1,691,433 does not include PO's received by SNC prior to 3/1/2013.

   c) Mobius may, at its choice, allow SNC to continue to be non-exclusive beginning on 1/1/2014.

   d) Mobius may, at its choice, directly sell DoseLab and FractionCHECK to USA customers beginning no earlier than 9/8/2013. All direct sales of DoseLab and FractionCHECK made by Mobius between 9/8/2013 and 12/31/2013 will be reported to SNC. SNC will receive 25% of the MSRP of these sales. 75% of the MSRP of these sales will be counted towards the $1,691,433 in guaranteed SNC sales.

   e) If SNC fails to meet its purchase guarantee by 12/31/2013, Mobius will allow SNC to purchase any mixture of Doselab and FractionCHECK products, excluding training and

maintenance, without assigned end users, to make up the shortfall, and resell those products with full rights to the end user.

f) Mobius guarantees not to alter any pricing and/or fees through 12/31/2013

g) SNC will pay Mobius for all previous and future maintenance contracts per the terms and conditions for which SNC is paid per the customer PO.

2. SNC Property

a) SNC may begin to market and sell its own products competitive to those of Mobius effective 9/8/2013, 6 months after the notification date.

b) Effective 1/1/2014, SNC will extend a discount on ImagePro phantoms equal to any discount that Mobius extends to SNC on DoseLab and FractionCHECK and related products, not to exceed 30%. This "discount matching" is guaranteed until 12/31/2014 and is renegotiable at that time.

c) SNC guarantees not to alter pricing and/or fees on ImagePro to Mobius through 12/31/2014, however if Mobius alters pricing and/or fees to SNC, SNC will at its discretion apply similar alterations to ImagePro pricing to Mobius.

d) SNC does not transfer leads which SNC has acquired to Mobius.

3. Other

a) Both companies will issue a joint press release (date TBD, but not later than 09/08/2013) announcing that Sun Nuclear will no longer be the exclusive distributor of Mobius effective 1/1/2014.

b) Mobius agrees not to encourage by any means, any DoseLab customer (potential or existing) to delay purchases to 1/1/2014 or thereafter.

c) SNC agrees not to encourage by any means, any DoseLab customer (potential or existing) to delay purchases to 9/08/2013 or thereafter.

d) For 2013, Mobius will have employees in the SNC booth at AAPM and ASTRO.

e) For 2013, SNC will fully promote DoseLab and FractionCHECK at ESTRO

4. The following portions of the 11/14/2011 Agreement are no longer applicable in their entirety:

a) Section 1 Appointment of Distributors;

b) Section 7 Non-Competition;

c) Section 12 Duration of Agreement; Terms; and

d) Section 13 Termination of Agreement.

5. Those portions of the 11/14/2011 Agreement not specifically referenced in Section 4 immediately above shall govern the relationship of Mobius and SNC under the terms set out above in Sections 1-3 of this Transition agreement

MOBIUS MEDICAL SYSTEMS, LP

By: _____
Nathan Childress, Limited Partner

Date: 4/10/13

SUN NUCLEAR CORPORATION

By _____
Jeff Simon, Chief Executive Officer

Date 4/10/13